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Medication Effects on Male Fertility

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1. Effect of antidepressant medications on semen parameters and male fertility

Author(s): Beeder L.A.; Samplaski M.K.

Source: International Journal of Urology; Jan 2020; vol. 27 (no. 1); p. 39-46

Publication Date: Jan 2020

Publication Type(s): Review

PubMedID: 31542895

Abstract: Antidepressant medications are commonly used in males of reproductive age for long-term treatment of depression, as well as other disorders. Although antidepressants are known to be associated with sexual side-effects, their effects on semen parameters and other markers of male fertility have been less thoroughly described. The majority of available studies have focused on selective serotonin reuptake inhibitors, which have been shown to negatively impact semen quality in in vitro, animal and human studies. Fluoxetine, in particular, has been the subject of multiple studies and has been associated with gonadotoxic effects, including decreased sperm concentration and motility, increased deoxyribonucleic acid fragmentation, and decreased reproductive organ weights. Studies of several other selective serotonin reuptake inhibitors have yielded similar results. Reassuringly, this effect does seem to be reversible. The data regarding serotonin-norepinephrine reuptake inhibitors, norepinephrine-dopamine reuptake inhibitors, tricyclic antidepressants, monoamine oxidase inhibitors and atypical antidepressants are sparse, varied and conflicting. Given the widespread and often long-term use of antidepressant medications, there is a clear need for further data regarding their impact on semen quality and male fertility.

Database: EMBASE

2. Who's your daddy? Behavioral and epigenetic consequences of paternal drug exposure

Author(s): Nieto S.J.; Kosten T.A.

Source: International Journal of Developmental Neuroscience; Nov 2019; vol. 78 ; p. 109-121

Publication Date: Nov 2019

Publication Type(s): Review

PubMedID: 31301337

Abstract: Substance use disorders (SUDs) reflect genetic and environmental factors. While identifying reliable genetic variants that predispose individuals to developing SUDs has been challenging, epigenetic factors may also contribute to the heritability of SUDs. Familial drug use associates with a wide range of problems in children, including an increased risk for developing a SUD. The implications of maternal drug use on offspring development are a well-studied area; however, paternal drug use prior to conception has received relatively little attention. Paternal exposure to several environmental stimuli (i.e. stress or diet manipulations) results in behavioral and epigenetic changes in offspring. The purpose of this review is to determine the state of the preclinical literature on the behavioral and epigenetic consequences of paternal drug exposure. Drug-sired offspring show several developmental and physiological abnormalities. These offspring also show deficits in cognitive and emotional domains. Examining sensitivity to drugs in offspring is a growing area of research. Drug-sired offspring are resistant to the rewarding and reinforcing properties of drugs. However, greater paternal motivation for the drug, combined with high drug intake, can result in addiction-like behaviors in offspring. Drug-sired offspring also show altered histone modifications and DNA methylation levels of imprinted genes and microRNAs; epigenetic-mediated changes were also noted in genes related to glutamatergic and neurotrophic factor signaling. In some instances, drug use resulted in aberrant epigenetic modifications in sire sperm, and these changes were maintained in the brains of offspring. Thus, paternal drug exposure has long-lasting consequences that include altered drug sensitivity in subsequent generations. We discuss factors (i.e. maternal behaviors) that may moderate these paternal drug-induced effects as well as ideas for future directions.

Database: EMBASE

3. Effect of ibuprofen on semen quality.

Author(s): Banihani, Saleem Ali

Source: Andrologia; May 2019; vol. 51 (no. 4); p. e13228

Publication Date: May 2019

Publication Type(s): Journal Article Systematic Review

PubMedID: 30623461

Available at Andrologia - from Wiley Online Library

Abstract: Ibuprofen is a widely used analgesic/antipyretic medication belongs to the nonsteroidal anti-inflammatory class. Even though the influence of ibuprofen on semen quality has been investigated in various occasions, the comprehensive understanding and discussion of its impact on semen quality is still yet to be determined. In this work, we systematically review and reveal the effect of ibuprofen on semen quality, and thus on fertilising capability. To achieve this goal, we searched the main research databases (Scopus and PubMed) from 1 June 1986 through 13 October 2018 for English-language articles and abstracts using the keywords "ibuprofen" versus "semen" and "sperm". In addition, related published articles or abstracts were also discussed if relevant. Altogether, the main stream of research, from both in vitro and in vivo studies, presents an adverse effect of ibuprofen on different sperm parameters such as motility, viability, count and DNA integrity; however, such effect is not yet confirmed in humans. Mechanisms by which ibuprofen affects semen quality may be by reducing testosterone and prostaglandin synthesis, chelating zinc ions and inhibiting nitric oxide synthesis. However, further research studies, mainly clinical, are still of great importance to confirm the effects of ibuprofen on semen quality.

Database: Medline

4. Safety of anti-rheumatic drugs in men trying to conceive: A systematic review and analysis of published evidence.

Author(s): Mouyis, Maria; Flint, Julia D; Giles, Ian P

Source: Seminars in arthritis and rheumatism; Apr 2019; vol. 48 (no. 5); p. 911-920

Publication Date: Apr 2019

Publication Type(s): Journal Article Systematic Review

PubMedID: 30220537

Available at Seminars in arthritis and rheumatism - from Unpaywall

Abstract: There is limited evidence relating to the impact of disease modifying anti-rheumatic drugs (DMARDs) upon male fertility and peri-conception paternal exposure in men with rheumatic disease. Therefore, we conducted a systematic review of available evidence to update information on this subject and guide paternal counselling. A systematic search of PubMed and Embase was carried out up to September 2017, to find relevant peer-reviewed papers, using keywords for fertility/spermatogenesis/conception, men, and disease modifying or biologic drugs commonly prescribed in patients with rheumatic disease. The search yielded 724 papers, and the titles/abstracts were screened independently by 2 authors, duplicates removed and 233 potentially relevant papers selected for full text review. A total of 84 papers were included in the final analysis which covered the impact on fertility of over 611 male exposures to relevant drugs, and over 5986 pregnancies conceived during paternal exposure to (or within 3 months of stopping) these drugs. Aside from the known adverse impact of cyclophosphamide and sulfasalazine on spermatogenesis, overall there was no firm evidence of harm to fertility or pregnancy outcomes with paternal exposure to anti-TNF therapies, abatacept, rituximab, azathioprine, cyclosporine A, hydroxychloroquine, leflunomide, methotrexate or mycophenolate mofetil. There was no evidence

found pertaining to the effects of male exposure to IVIG, tacrolimus, golimumab, anakinra or belimumab on fertility or pregnancy outcomes. These results provide further reassurance as to the safety of many DMARDs for men trying to conceive and will be useful when counselling men about risks of anti-rheumatic drugs to fertility and pregnancies, and following accidental conception.

Database: Medline

5. Infertility and teratogenicity after paternal exposure to systemic dermatologic medications: A systematic review.

Author(s): Zakhem, George A; Motosko, Catherine C; Mu, Euphemia W; Ho, Roger S

Source: Journal of the American Academy of Dermatology; Apr 2019; vol. 80 (no. 4); p. 957-969

Publication Date: Apr 2019

Publication Type(s): Journal Article Systematic Review

PubMedID: 30287313

Abstract:BACKGROUNDThis systematic review assesses effects of paternal exposure to dermatologic medications by using the former US Food and Drug Administration (FDA) pregnancy categories as a benchmark.OBJECTIVETo assess whether systemic dermatologic medications can cause infertility and teratogenicity when taken by men.METHODSCategories D and X dermatologic medications were identified; a systematic review of the literature and reviews of the FDA Adverse Events Reporting System and prescribing information were performed to identify the effects of these medications on male fertility and teratogenicity. A secondary search was performed to assess for other systemic dermatologic medications causing teratogenicity or infertility following paternal exposure.RESULTSA total of 13 medications met the inclusion criteria. Of 1,032 studies identified, 19 were included after a systematic review of the literature. Studies evaluating medication effects with paternal exposure were identified for 10 of the 13 evaluated medications, and evidence of a negative effect was identified for 6 medications.LIMITATIONSWe did not encounter any studies for 3 medications that met the inclusion criteria. Information submitted to the FDA Adverse Events Reporting System may not reflect the incidence of side effects.CONCLUSIONSMany former pregnancy category D and X systemic dermatologic medications also have effects on male fertility. More research and better-quality studies are required in this area, particularly studies assessing potential teratogenicity.

Database: Medline

6. The excessive use of antioxidant therapy: A possible cause of male infertility?

Author(s): Henkel, Ralf; Sandhu, Inderpreet Singh; Agarwal, Ashok

Source: Andrologia; Feb 2019; vol. 51 (no. 1); p. e13162

Publication Date: Feb 2019

Publication Type(s): Journal Article Review

PubMedID: 30259539

Available at Andrologia - from Wiley Online Library

Available at Andrologia - from Unpaywall

Abstract: Reactive oxygen species and oxidative stress are closely associated with various pathologies such as neurodegenerative diseases, ageing and male infertility. Hence, antioxidants such as vitamin C, vitamin E, N-acetyl cysteine, L-carnitine and folic acid are regularly used in various treatment regimens to protect cells from the damage induced by free radicals. However, given their over-the-counter availability at unnaturally high concentrations and also the fact that they are commonly added to various food products, patients may run a risk of consuming excessive dosages of these compounds, which may then be toxic. The few studies that have assessed antioxidant overuse and the associated adverse effects found that large doses of dietary antioxidant supplements have varying-if any-therapeutic effects even though free radicals clearly damage cells-a phenomenon that has been termed the "antioxidant paradox." Furthermore, overuse of antioxidants such as vitamin C, vitamin E, N-acetyl cysteine may lead to reductive stress, which is reported to be as dangerous to cells as oxidative stress and can be the cause of diseases such as cancer or cardiomyopathy. Therefore, we feel that there is a need for more elaborate research to establish the clear benefits and risks involved in antioxidant therapy for male infertility.

Database: Medline

7. Safety of important dermatological drugs (retinoids, immune suppressants, anti androgens and thalidomide) in reproductively active males with respect to pregnancy outcome: A brief review of literature

Author(s): Kumar P.; Das A.; Lal N.R.; Jain S.; Ghosh A.

Source: Indian Journal of Dermatology, Venereology and Leprology; 2018; vol. 84 (no. 5); p. 539-546

Publication Date: 2018

Publication Type(s): Review

PubMedID: 29998864

Available at Indian journal of dermatology, venereology and leprology - from ProQuest (Health Research Premium) - NHS Version

Available at Indian journal of dermatology, venereology and leprology - from Unpaywall

Abstract: Paternally transmitted damage to offspring is recognized as a complex issue. Each parent contributes 23 chromosomes to a child; hence, it is necessary to know the effects of both maternal and paternal pre-and peri-conceptional exposure to drugs on pregnancy outcome. While there are many studies on the effects of maternal drug exposure on pregnancy outcome, literature on paternal exposure is scarce. Of late however, paternal exposure has been receiving increasing attention. We present a brief review on the safety of commonly used drugs in dermatology, focused on retinoids, immune suppressants, anti androgens and thalidomide.

Database: EMBASE

8. Paternal exposure to antirheumatic drugs-What physicians should know: Review of the literature.

Author(s): Micu, M C; Ostensen, M; Villiger, P M; Micu, R; Ionescu, R

Source: Seminars in arthritis and rheumatism; Oct 2018; vol. 48 (no. 2); p. 343-355

Publication Date: Oct 2018

Publication Type(s): Journal Article Review

PubMedID: 29502800

Abstract: Reproduction capacity and long-term preserved hormonal function are important aspects with big impacts on patients' quality of life. Updated information on the interaction between drug therapy and reproductive function is essential when discussing family planning with patients. Currently, limited data is published regarding paternal exposure to different medications. Thus, it may be a challenge for the practitioner to choose the right therapy for a young male patient. Therefore we reviewed the literature, for effects of antirheumatic drugs on male gonadal function with a focus on spermatogenesis and offspring.

Database: Medline

9. Post interferon therapy decreases male fertility through gonadotoxic effect.

Author(s): Bukhari, Shazia Anwer; Ahmed, Muhammad Masood; Anjum, Fozia; Anwar, Haseeb; Naqvi, Syed Ali Raza; Zahra, Tauseef; Batool, Uzma

Source: Pakistan journal of pharmaceutical sciences; Jul 2018; vol. 31 (no. 4)

Publication Date: Jul 2018

Publication Type(s): Journal Article

PubMedID: 30058549

Abstract: Prevalence of hepatitis C virus (HCV) has been seen in more than 15% of Pakistani population. For the treatment of this infection, only two medicines, interferon, and ribavirin were approved in 1998. The concerned physicians evaluate side effects of these two antiviral drugs only during the treatment period. The long-term extra hepatic side effects are being neglected. This retrospective study was conducted with reference to induced infertility in HCV treated 40 male patients from the period 2008-2015. Possible effects of interferon therapy on fertility hormones and seminal parameters were assessed. Level of fertility hormones like serum Follicle Stimulating Hormone (FSH), Luteinizing Hormone (LH), and testosterone was measured. For seminal parameters, guidelines from World Health Organization (WHO) were followed. Among forty cases of HCV patients who received interferon, only 14 (35%) have children and 26 (65%) could not conceive ($p = 0.0372$). After HCV treatment, HCV positive patients showed a significant change in the level of FSH, LH ($p<0.05$). Especially, it decreased testosterone level ($p=0.0096$). Similarly, HCV treatment significantly decreased sperm count ($p=0.001$) and motility ($p=0.0005$).

Database: Medline

10. Statin Use in Men and New Onset of Erectile Dysfunction: A Systematic Review and Meta-Analysis.

Author(s): Elgendy, Akram Y; Elgendy, Islam Y; Mahmoud, Ahmed N; Al-Ani, Mohammad; Moussa, Mohamed; Mahmoud, Ahmad; Mojadidi, Mohammad K; Anderson, R David

Source: The American journal of medicine; Apr 2018; vol. 131 (no. 4); p. 387-394

Publication Date: Apr 2018

Publication Type(s): Meta-analysis Journal Article Systematic Review

PubMedID: 29146233

Abstract:BACKGROUNDErectile dysfunction has been reported as an adverse effect of statin therapy.METHODSWe performed a meta-analysis of randomized trials and observational studies that compared statin users versus non-statin users and reported data regarding new onset of erectile dysfunction in men with established cardiovascular disease or cardiovascular disease risk factors. We used DerSimonian-Laird and Peto models to construct the summary estimates risk ratio. We used the Grading of Recommendations Assessment, Development and Evaluation (GRADE) to assess the overall quality of evidence for new-onset erectile dysfunction.RESULTSThree randomized trials and 3 observational studies were identified, with 69,448 men, of whom 24,661 were statin users. Statin use was not associated with an increased risk of new onset of erectile dysfunction by random effects model or fixed effect model (risk ratio 0.96; 95% confidence interval, 0.84-1.10; P = .58; and odds ratio 0.95; 95% confidence interval, 0.88-1.02; P = .20, respectively). This effect was similar in randomized trials and observational studies (Pinteraction = .86). Randomized trials provided a moderate quality of evidence, and observational studies provided a very low quality of evidence by the GRADE assessment. Random effects meta-regression analyses revealed no difference in treatment effect according to age or diabetes mellitus (P = .83 and P = .74, respectively).CONCLUSIONSAmong men with established cardiovascular disease or cardiovascular disease risk factors, statin use does not seem to be associated with a new onset of erectile dysfunction. Adequately powered and high-quality randomized trials are recommended to confirm these findings.

Database: Medline

11. Effect of prescription medications on erectile dysfunction.

Author(s): Razdan, Shirin; Greer, Aubrey B; Patel, Amir; Alameddine, Mahmoud; Jue, Joshua S; Ramasamy, Ranjith

Source: Postgraduate medical journal; Mar 2018; vol. 94 (no. 1109); p. 171-178

Publication Date: Mar 2018

Publication Type(s): Journal Article Review

PubMedID: 29103015

Available at Postgraduate medical journal - from BMJ Journals - NHS

Available at Postgraduate medical journal - from ProQuest (Health Research Premium) - NHS Version

Abstract: Erectile dysfunction (ED) affects about 50% of men in the USA and is primarily attributed to physiological (organic) and psychological causes. However, a substantial portion of men suffer from ED due to iatrogenic causes. Common medications such as antihypertensives, non-steroidal anti-inflammatory drugs and antacids may cause ED. Physicians should be aware of the various prescription medications that may cause ED to properly screen and counsel patients on an issue that many may feel too uncomfortable to discuss. In this review, we discuss the physiology, data and alternative therapies for the ED caused by medications.

Database: Medline

12. Antidiabetic therapies and male reproductive function: where do we stand?

Author(s): Tavares, R S; Escada-Rebelo, S; Silva, A F; Sousa, M I; Ramalho-Santos, J; Amaral, S

Source: Reproduction (Cambridge, England); Jan 2018; vol. 155 (no. 1); p. R13

Publication Date: Jan 2018

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review

PubMedID: 28993453

Abstract: Diabetes mellitus has been increasing at alarming rates in recent years, thus jeopardizing human health worldwide. Several antidiabetic drugs have been introduced in the market to manage glycemic levels, and proven effective in avoiding, minimizing or preventing the appearance or development of diabetes mellitus-related complications. However, and despite the established association between such pathology and male reproductive dysfunction, the influence of these therapeutic interventions on such topics have been scarcely explored. Importantly, this pathology may contribute toward the global decline in male fertility, giving the increasing preponderance of diabetes mellitus in young men at their reproductive age. Therefore, it is mandatory that the reproductive health of diabetic individuals is maintained during the antidiabetic treatment. With this in mind, we have gathered the available information and made a critical analysis regarding the effects of several antidiabetic drugs on male reproductive function. Unlike insulin, which has a clear and fundamental role on male reproductive function, the other antidiabetic therapies' effects at this level seem incoherent. In fact, studies are highly controversial possibly due to the different experimental study approaches, which, in our opinion, suggests caution when it comes to prescribing such drugs to young diabetic patients. Overall, much is still to be determined and further studies are needed to clarify the safety of these antidiabetic strategies on male reproductive system. Aspects such as the effects of insulin levels variations, consequent of insulin therapy, as well as what will be the impact of the side effect hypoglycemia, common to several therapeutic strategies discussed, on the male reproductive system are still to be addressed.

Database: Medline

13. Risk of adverse pregnancy outcome after paternal exposure to methotrexate within 90 days before pregnancy

Author(s): Eck L.K.; Jensen T.B.; Mastrogiannis D.; Torp-Pedersen A.; Askaa B.; Nielsen T.K.; Poulsen H.E.; Jimenez-Solem E.; Andersen J.T.

Source: Obstetrics and Gynecology; 2017; vol. 129 (no. 4); p. 707-714

Publication Date: 2017

Publication Type(s): Article

PubMedID: 28277353

Abstract:OBJECTIVE: To study the association between paternal exposure to methotrexate within the 90-day period before pregnancy and congenital malformations and stillbirth in the offspring. METHOD(S): We conducted a nationwide register study. Our cohort consisted of all live births in Denmark between 1997 and 2011 identified from the Medical Birth Registry. Methotrexate-exposed fathers were identified from the National Prescription Registry. From the national Hospital Registry we identified paternity, live births, and stillbirths as well as discharge diagnoses on congenital malformations. RESULT(S): We identified 849,676 live births with known paternity. There were 127 live births of methotrexateexposed fathers. Of these, four (3.2%) had major malformations compared with 28,814 (3.4%) of the unexposed. The odds ratio (OR) for major congenital malformation among exposed fathers compared with unexposed was 0.93 (95% confidence interval [CI] 0.34-2.51) and when adjusted for year of birth, maternal age, educational length, household income, and parity, the adjusted OR was 1.01 (95% CI 0.37-2.74). There were no stillbirths in the methotrexate-exposed group compared with 2,541 (0.3%) in the unexposed group and no increased risk of preterm birth (adjusted OR 1.31, 95% CI 0.66-2.59) among the children from exposed fathers. CONCLUSION(S): We found no association between paternal exposure to methotrexate within 90 days before pregnancy and congenital malformations, stillbirths, or preterm birth. Available data suggest that prepregnancy paternal methotrexate exposure should not be of major concern. Multinational recommendations should be changed accordingly.

Database: EMBASE

14. Introduction to medication effects on male reproduction

Author(s): Drobnis E.Z.; Nangia A.K.

Publication Date: 2017

Publication Type(s): Chapter

PubMedID: 29256121

Abstract: The over-arching goal of this volume is to help infertility practitioners evaluate and manage their patients with poor semen quality. Medications can negatively impact on male reproduction and these effects are of increasing concern. People world-wide are using more medications than in the past, including men of childbearing age. In addition, men are fathering children later in life than previously, which is associated with greater medication use in the reproductive population. Finally, people are experiencing more chronic disease at earlier ages, particularly in developed countries. Taken together, these factors have increased the number of prescribed and over-the-counter (OTC) drugs being taken by men attempting fatherhood. There is some evidence in the literature that medications, even some common OTC medications, can negatively impact male reproduction, and yet, medication use is inadequately addressed in the evaluation of male infertility and fertility plans are rarely considered by providers before prescribing medications. In this volume, we systematically consider medications being used world-wide, focusing on those that might cause poor semen quality in men with otherwise idiopathic infertility. Extensive tables are provided in this volume that summarize the research for each specific medication, and it is our hope that these tables will be useful in day-to-day counseling of infertility patients and of men desiring fertility. Although some specialist practitioners are aware that there are pharmacological negative effects on male fertility, most practitioners are not, and the published evidence is surprisingly sparse. We hope that this volume will encourage our readers to conduct robust, well-designed studies to inform clinical practice.

Database: EMBASE

15. A literature review of antithrombotic and anticoagulating agents on sexual function.

Author(s): Chen, L W-H; Yin, H-L

Source: Andrologia; Dec 2017; vol. 49 (no. 10)

Publication Date: Dec 2017

Publication Type(s): Journal Article Review

PubMedID: 28261826

Available at Andrologia - from Wiley Online Library

Abstract: Although millions of people receive antithrombotic agents (ATAs) or anticoagulating agents (ACAs) for vascular prophylaxis daily, the negative impact of these agents on sexual function has not been systematically studied. Therefore, a literature search was conducted to determine the effects of the marketed ATAs and ACAs on sexual function. In regard to men, the results show that thienopyridine derivatives increase the risk of erectile dysfunction (ED) and decrease libido and sexual function. The relationship between aspirin use and ED is inconsistent, ranging from a moderate risk to beneficial effects. Nonetheless, aspirin appears to result in a lower risk for ED than does clopidogrel, and seems to benefit patients with lithium-induced ED. Coumarin can cause vasculogenic priapism. In regard to women, only a single report of genital haemorrhage was found. Available data exclusively focus on male subjects. Taken together, ATAs and ACAs can disturb sexual function in different aspects in men. Newer thienopyridine derivatives, such as prasugrel or ticagrelor, may be used as a substitute for clopidogrel when sexual dysfunction occurs. Priapism and genital haemorrhage were found to be uncommon but serious complications of ACA treatment. Additional studies examining the effects of ATAs and ACAs on sexual function are needed, especially in woman and elderly.

Database: Medline

16. Birth outcomes after preconception paternal exposure to methotrexate: A nationwide cohort study

Author(s): Winter R.W.; Friedman S.; Norgard B.M.; Larsen M.D.; Magnussen B.; Kammerlander H.

Source: Reproductive Toxicology; Dec 2017; vol. 74 ; p. 219-223

Publication Date: Dec 2017

Publication Type(s): Article

PubMedID: 29080667

Abstract: Background Methotrexate (MTX), a folic acid antagonist, is often prescribed for moderate to severe inflammatory related diseases. The safety of paternal MTX use prior to conception is unknown. This study, using the National Danish Registries, aimed to examine the association between paternal MTX use three months before conception and adverse birth outcomes. Results Children fathered by men treated with MTX within three months before conception constituted the exposed cohort (N = 193), and children fathered by men not treated with MTX constituted the unexposed cohort (N = 1,013,801). The adjusted odds ratio (OR) for preterm birth was 1.38 (95% CI:0.68-2.81). The adjusted ORs of congenital anomalies (CAs) and small for gestational age (SGA) were 1.10 (95% CI:0.57-2.13) and 0.98 (95% CI:0.39-2.50), respectively. Conclusion Our results regarding the effect of paternal use of MTX within 3 months before conception on birth outcomes of CAs, preterm birth and SGA are overall reassuring.

Database: EMBASE

17. Tyrosine Kinase Inhibitors and Male Reproductive Health.

Author(s): Ramstein, Joris J; Tsai, Katy K; Smith, James F

Source: Clinical pharmacology and therapeutics; Nov 2017; vol. 102 (no. 5); p. 754-756

Publication Date: Nov 2017

Publication Type(s): Journal Article Review

PubMedID: 28791688

Abstract: Tyrosine kinase inhibitors (TKIs) are a targeted class of cancer therapies effective against a range of malignancies and their use is growing significantly each year. Many men taking TKIs desire children, yet very little is known about the potential for reproductive harm of these medications. The mechanism of action of TKIs suggest a possible route to impairment of sperm functional properties or spermatogenesis.

Database: Medline

18. Reassuring results on birth outcomes in children fathered by men treated with azathioprine/6-mercaptopurine within 3 months before conception: A nationwide cohort study

Author(s): Norgard B.M.; Magnussen B.; Larsen M.D.; Friedman S.

Source: Gut; Oct 2017; vol. 66 (no. 10); p. 1761-1766

Publication Date: Oct 2017

Publication Type(s): Article

PubMedID: 27456154

Available at Gut - from BMJ Journals - NHS

Available at Gut - from Free Medical Journals . com

Available at Gut - from ProQuest (Health Research Premium) - NHS Version

Abstract: Objective Information on the safety of paternal use of azathioprine (AZA) and 6-mercaptopurine (6-MP) prior to conception is limited. Based on nationwide data from the Danish health registries, we examined the association between paternal use of AZA/6-MP within 3 months before conception and adverse birth outcomes. Design This nationwide cohort study is based on data from all singletons born in Denmark from 1 January 1997 through 2013. Children fathered by men who used AZA/6-MP within 3 months before conception constituted the exposed cohort (N=699), and children fathered by men who did not use AZA/6-MP 3 months prior to conception constituted the unexposed cohort (N=1 012 624). The outcomes were congenital abnormalities (CAs), preterm birth and small for gestational age (SGA). We adjusted for multiple covariates and performed a restricted analysis of men with IBD. Results There were no significantly increased risks of CAs, preterm birth or SGA in exposed versus unexposed cohorts of children. The adjusted ORs were 0.82 (95% CI 0.53 to 1.28) for CAs, 1.17 (95% CI 0.72 to 1.92) for preterm birth and 1.38 (95% CI 0.76 to 2.51) for SGA. Restricting our analysis to fathers with IBD showed similar results with no significantly increased risk of adverse birth outcomes. Conclusions This nationwide study is the largest to date, examining the effect of preconceptual paternal use of AZA/6-MP on birth outcomes in live born singletons. The results of no significantly increased risks of adverse birth outcomes are reassuring and support the continuation of paternal AZA/6-MP treatment during conception.

Database: EMBASE

19. Paternal use of azathioprine/6-mercaptopurine or methotrexate within 3 months before conception and long-term health outcomes in the offspring-A nationwide cohort study

Author(s): Friedman S.; de Silva P.; Norgard B.M.; Larsen M.D.; Magnussen B.; Jolving L.R.

Source: Reproductive Toxicology; Oct 2017; vol. 73 ; p. 196-200

Publication Date: Oct 2017

Publication Type(s): Article

PubMedID: 28844800

Abstract: Purpose We examined the effect of preconception paternal use of azathioprine (AZA)/6-mercaptopurine (6-MP) or methotrexate (MTX) and the risk of adverse long-term outcomes in the offspring. Methods This study included all children born in Denmark from 1 January 1997 through 2013. Exposed cohort: children fathered by men who used AZA/6-MP (N = 735) or MTX (N = 209) within three months before conception; unexposed cohort: children fathered by men who did not use AZA/6-MP/MTX (N = 1,056,524). Outcome(s): malignancies, autism spectrum disorders (ASD)/schizophrenia/psychosis, and attention deficit hyperactivity disorder (ADHD). Results Outcomes: of children: AZA/6-MP exposure: one with leukemia (0.14%), one with ASD/schizophrenia (0.14%) and three with ADHD (0.41%); MTX exposure: three with ADHD (1.4%). Unexposed: 1710 with malignancies (0.16%), 2107 with ASD/schizophrenia (0.20%), 2799 with ADHD (0.26%). Median follow up times were 6.7 [IQR:3.6-11.3] and 9.9 [IQR:5.7-14.3] years respectively. Conclusions There was no negative impact of paternal preconception use of AZA/6-MP/MTX on selected childhood health outcomes.

Database: EMBASE

20. Topiramate-associated sexual dysfunction: A systematic review.

Author(s): Chen, Louis Wei-Hsi; Chen, Melody Yun-Si; Chen, Kuo-Yen; Lin, Hung-Sheng; Chien, Chia-Chang; Yin, Hsin-Ling

Source: Epilepsy & behavior : E&B; Aug 2017; vol. 73 ; p. 10-17

Publication Date: Aug 2017

Publication Type(s): Journal Article Review Systematic Review

PubMedID: 28605628

Abstract:INTRODUCTIONSexual pharmacotoxicity renders patients with epilepsy at a risk for sexual dysfunction (SD). This study is aimed to analyze the relationship between sexual function and topiramate to avoid topiramate-associated SD.METHODSA systematic review following the PRISMA guidelines was performed to elucidate any SD occurrence in patients receiving topiramate.RESULTSA total of 17 publications were reviewed. Based on limited polytherapy observational studies, the frequency of self-reported topiramate-associated SD, libido disorder, and orgasmic disorder in patients with polytherapy was 9.0%, 9.0%, and 2.6%, respectively (grade C evidence). Female patients mainly had anorgasmia, whereas male patients principally had erectile dysfunction. The daily dose of topiramate in patients with SD was within the recommended dose. Sexual adversity usually occurred from 4weeks after topiramate use but favorably subsided without eventful complications after topiramate substitution or dose reduction in all patients.CONCLUSIONSTopiramate can elicit different patterns of SD, especially anorgasmia in women and erectile dysfunction in men, even with a therapeutic dose. Detailed drug education and careful monitoring are necessary to maximize sexual health, especially in persons undergoing polytherapy and with other risks for SD. Moreover, a rapid response, such as substitution or reduction of the dose, is suggested when SD occurs during its use.

Database: Medline

21. Birth Outcomes in Children Fathered by Men Treated with Immunosuppressant Drugs before Conception-A Danish Population-Based Cohort Study

Author(s): Egeberg A.; Gislason G.H.; Nast A.

Source: Journal of Investigative Dermatology; Aug 2017; vol. 137 (no. 8); p. 1790-1792

Publication Date: Aug 2017

Publication Type(s): Article

PubMedID: 28433544

Available at The Journal of investigative dermatology - from Unpaywall

Database: EMBASE

22. The impact of drugs on male fertility: a review.

Author(s): Semet, M; Paci, M; Saïas-Magnan, J; Metzler-Guillemain, C; Boissier, R; Lejeune, H; Perrin, J

Source: Andrology; Jul 2017; vol. 5 (no. 4); p. 640-663

Publication Date: Jul 2017

Publication Type(s): Journal Article Review Systematic Review

PubMedID: 28622464

Available at Andrology - from Wiley Online Library

Abstract: Beside cytotoxic drugs, other drugs can impact men's fertility through various mechanisms. Via the modification of the hypothalamic-pituitary-gonadal axis hormones or by non-hormonal mechanisms, drugs may directly and indirectly induce sexual dysfunction and spermatogenesis impairment and alteration of epididymal maturation. This systematic literature review summarizes existing data about the negative impact and associations of pharmacological treatments on male fertility (excluding cytotoxic drugs), with a view to making these data more readily available for medical staff. In most cases, these effects on spermatogenesis/sperm maturation/sexual function are reversible after the discontinuation of the drug. When a reprotoxic treatment cannot be stopped and/or when the impact on semen parameters/sperm DNA is potentially irreversible (Sulfasalazine Azathioprine, Mycophenolate mofetil and Methotrexate), the cryopreservation of spermatozoa before treatment must be proposed. Deleterious impacts on fertility of drugs with very good or good level of evidence (Testosterone, Sulfasalazine, Anabolic steroids, Cyproterone acetate, Opioids, Tramadol, GhRH analogues and Sartan) are developed.

Database: Medline

23. Exposure to Mycophenolate and Fatherhood

Author(s): Midtvedt K.; Reisaeter A.V.; Asberg A.; Bergan S.; Vikse B.E.

Source: Transplantation; Jul 2017; vol. 101 (no. 7)

Publication Date: Jul 2017

Publication Type(s): Article

PubMedID: 28346297

Available at Transplantation - from Ovid (LWW Total Access Collection 2019 - with Neurology)

Available at Transplantation - from Unpaywall

Abstract: Background Mycophenolic acid (MPA) is the active immunosuppressive substance in both mycophenolate mofetil and mycophenolate sodium, and it is widely used after organ transplantation. In women, taking MPA is teratogenic and may also influence spermatogenesis. There is a lack of knowledge regarding outcome of pregnancies fathered by men exposed to MPA. Methods We compared outcomes in pregnancies fathered by renal transplant men per whether they had been exposed to MPA or not at time of conception. A nationwide population-based retrospective cohort study was performed. Data from the Norwegian Renal Registry with all renal transplanted men alive between January 1, 1995 and December 31, 2015 were included, and relevant outcome data were extracted from the Medical Birth Registry of Norway. Results During the given time, 230 immunosuppressed renal transplanted men fathered 350 children (155 on MPA/195 not on MPA). There were no significant increased risks of malformation (3.9% vs. 2.6%, P = 0.49) in MPA exposed versus unexposed cohorts of children. The average dose (+/-SD) of mycophenolate was 1.42 +/- 0.3 g/day and the individual median MPA trough concentration in the time period of anticipated conception and pregnancy was 2.8 +/- 1.6 mg/L. Birth weight was similar in exposed and unexposed cohorts of children; 3381 +/- 681 g vs. 3429 +/- 714 g (P = 0.53). Conclusions Paternal exposure to MPA did not increase the risk of adverse birth outcomes in children fathered by male kidney transplanted patients. These results are reassuring and support the continuation of paternal MPA treatment before, during, and after conception.

Database: EMBASE

24. Effect of captopril on semen quality.

Author(s): Banihani, S A

Source: Andrologia; May 2017; vol. 49 (no. 4)

Publication Date: May 2017

Publication Type(s): Journal Article Review

PubMedID: 27444248

Available at Andrologia - from Wiley Online Library

Abstract: Various studies (direct and indirect) have presented the effect of captopril, a universally used antihypertensive medication, on semen quality; yet, this effect is still collectively unreviewed. This review systematically discusses and summarises the effect of captopril on semen quality. We searched all published articles in the MEDLINE electronic database since June 1985 until January 2016 using the keywords "captopril" and "sperm," and certain supporting articles were reviewed and considered, if relevant. In conclusion, up to the present time, captopril does not appear to induce a striking change in semen quality, and hence on male infertility, while it may affect the rate of spermatozoa-egg fusion as it inhibits the activity of angiotensin-converting enzyme that is released during capacitation and the acrosome reaction. Further research, mainly clinical, is still desired to prove these effects.

Database: Medline

25. Pregnancy and fetal outcomes after paternal exposure to azathioprine, methotrexate or mycophenolic acid: a critically appraised topic

Author(s): Garritsen F.M.; de Bruin-Weller M.S.; van den Broek M.P.H.; van Zuilen A.D.; Fidder H.H.; Spuls P.I.

Source: British Journal of Dermatology; Apr 2017; vol. 176 (no. 4); p. 866-877

Publication Date: Apr 2017

Publication Type(s): Article

PubMedID: 28418137

Available at The British journal of dermatology - from Wiley Online Library

Database: EMBASE

26. The Influence of Methotrexate Treatment on Male Fertility and Pregnancy Outcome after Paternal Exposure

Author(s): Grosen A.; Kelsen J.; Hvas C.L.; Bellaguarda E.; Hanauer S.B.

Source: Inflammatory Bowel Diseases; Apr 2017; vol. 23 (no. 4); p. 561-569

Publication Date: Apr 2017

Publication Type(s): Review

PubMedID: 28267049

Available at Inflammatory bowel diseases - from Unpaywall

Abstract: Background: Inflammatory bowel disease incidence peaks during the reproductive years. Methotrexate (MTX) is frequently used for inflammatory bowel disease, but its use during pregnancy is contraindicated in women because of teratogenic effects. The aim of this review is to investigate the influence of MTX on male fertility and pregnancy outcomes after paternal MTX exposure. Method(s): A systematic literature search was performed by applying 2 focus areas, "methotrexate" and "male fertility or pregnancy outcome." Terms and keywords were used both as MeSH terms and free-text searches. Pertinent articles were searched for additional relevant references. Result(s): In animal studies, MTX induces aberrations in sperm DNA that have not been identified in humans. The effects of MTX on human sperm quality have only been described in case reports. A transient adverse effect on sperm quality with low-dose MTX has been reported, but several other cases have not found harmful effects of MTX. MTX has not been measured in human sperm ejaculates; yet, the risk of a direct toxic effect on the fetus through MTX-contaminated seminal plasma seems negligible. Until now, 284 pregnancies with paternal MTX exposure have been reported. The outcomes were 248 live births and a total of 13 malformations, with no overt indication of MTX embryopathy. Conclusion(s): This review reveals the lack of studies on the safety of MTX with regard to male reproduction. It is not clear whether MTX transiently influences male fertility and sperm DNA integrity, and more studies are needed. Comparative cohort studies found no increased risk of adverse pregnancy outcomes.

Database: EMBASE

27. FDA-approved medications that impair human spermatogenesis.

Author(s): Ding, Jiayi; Shang, Xuejun; Zhang, Zhanhu; Jing, Hua; Shao, Jun; Fei, Qianqian; Rayburn, Elizabeth R; Li, Haibo

Source: Oncotarget; Feb 2017; vol. 8 (no. 6); p. 10714-10725

Publication Date: Feb 2017

Publication Type(s): Journal Article Review

PubMedID: 27801671

Available at Oncotarget - from Europe PubMed Central - Open Access

Abstract: We herein provide an overview of the single-ingredient U.S. Food and Drug Administration (FDA)-approved drugs that affect human spermatogenesis, potentially resulting in a negative impact on male fertility. To provide this information, we performed an in-depth search of DailyMed, the official website for FDA-approved drug labels. Not surprisingly, hormone-based agents were found to be the drugs most likely to affect human spermatogenesis. The next category of drugs most likely to have effects on spermatogenesis was the antineoplastic agents. Interestingly, the DailyMed labels indicated that several anti-inflammatory drugs affect spermatogenesis, which is not supported by the peer-reviewed literature. Overall, there were a total of 65 labels for drugs of various classes that showed that they have the potential to affect human sperm production and maturation. We identified several drugs indicated to be spermatotoxic in the drug labels that were not reported in the peer-reviewed literature. However, the details about the effects of these drugs on human spermatogenesis are largely lacking, the mechanisms are often unknown, and the clinical impact of many of the findings is currently unclear. Therefore, additional work is needed at both the basic research level and during clinical trials and post-marketing surveillance to fill the gaps in the current knowledge. The present findings will be of interest to physicians and pharmacists, researchers, and those involved in drug development and health care policy.

Database: Medline

28. The toxicity of methotrexate in male fertility and paternal teratogenicity.

Author(s): Gutierrez, Jennifer Christine; Hwang, Kathleen

Source: Expert opinion on drug metabolism & toxicology; Jan 2017; vol. 13 (no. 1); p. 51-58

Publication Date: Jan 2017

Publication Type(s): Journal Article Review

PubMedID: 27590039

Abstract:INTRODUCTIONThere is a high prevalence of methotrexate (MTX) use in males of reproductive age. The scope of this paper reviews what is known regarding risks to fertility and partners' pregnancy outcomes with regard to MTX use in men. Areas covered: This paper reviews the evidence for current recommendations for MTX use and male fertility and aims to educate professionals regarding MTX use in reproducing males so that patients may be counseled appropriately. A literature search included peer-reviewed sources from PubMed searches and the literature referenced within. Expert opinion: There is a lack of evidence regarding effects of MTX on male fertility. The recommendation to stop MTX three months prior to conception is safe, but is not evidenced by an understanding of the impact of MTX on spermatogenesis or paternal-mediated teratogenicity but rather the timeframe of spermatogenesis. Given the unclear evidence, patients treated with MTX must be counseled on the likelihood of adverse effects of MTX and role of sperm cryopreservation. Future studies are needed to help elucidate the unclear evidence of MTX effects on male fertility and pregnancy outcomes.

Database: Medline

29. Chronic exposures and male fertility: The impacts of environment, diet, and drug use on spermatogenesis

Author(s): Gabrielsen J.S.; Tanrikut C.

Source: Andrology; 2016

Publication Date: 2016

Publication Type(s): Article In Press

Available at Andrology - from Wiley Online Library

Available at Andrology - from Unpaywall

Abstract: Several recent studies have suggested that sperm concentrations and semen quality have been decreasing over the past several decades in many areas of the world. The etiology of these decreases is currently unknown. Acute events can have significant impacts on spermatogenesis and are often readily identified during the male fertility evaluation. The majority of male factor infertility, however, is idiopathic. Chronic, low-dose exposures to chemicals and nutrients are more difficult to identify, but are extremely prevalent. These exposures have been shown to have dramatic effects on both individual and community health and interest in the cumulative and synergistic impacts of such agents on spermatogenesis has been increasing. While our understanding of these potential hazards is evolving, it is clear that they may significantly influence male reproductive potential. This review explores the literature related to effects of chronic exposures from drug use, dietary intake, and the environment on spermatogenesis in humans and animals.

Database: EMBASE

30. Use of selective serotonin reuptake inhibitors reduces fertility in men.

Author(s): Nørr, L; Bennedsen, B; Fedder, J; Larsen, E R

Source: Andrology; May 2016; vol. 4 (no. 3); p. 389-394

Publication Date: May 2016

Publication Type(s): Journal Article Review

PubMedID: 27019308

Available at Andrology - from Wiley Online Library

Abstract: Clinical review of the present data on the effects of selective serotonin reuptake inhibitors (SSRIs) on male fertility was the objective of the study. PubMed and Scopus were searched for publications in English or Danish and reviewed. Human trials, animal studies and in vitro studies were included. Use of SSRIs negatively affects semen parameters in most studies. In some studies, SSRIs are also shown to reduce DNA integrity. SSRIs can also delay ejaculation. Depression and anxiety can cause reduced libido, erectile dysfunction and delayed ejaculation as well. The use of SSRIs seems to reduce male fertility by affecting semen parameters, although most studies have a degree of confounding by indication caused by the underlying depression.

Database: Medline

31. Adverse effects of common medications on male fertility.

Author(s): Samplaski, Mary K; Nangia, Ajay K

Source: Nature reviews. Urology; Jul 2015; vol. 12 (no. 7); p. 401-413

Publication Date: Jul 2015

Publication Type(s): Journal Article Review

PubMedID: 26101108

Available at Nature reviews. Urology - from ProQuest (Health Research Premium) - NHS Version

Abstract: An increasing number of patients require long-term medication regimens at a young age, but the adverse effects of medications on male reproduction are often inadequately considered, recognized and investigated. Medications can affect male reproduction through central hormonal effects, direct gonadotoxic effects, effects on sperm function or on sexual function. For example, exogenous testosterone inhibits spermatogenesis through central suppression of the hypothalamic-pituitary-gonadal hormonal axis. 5α-reductase inhibitors can impair sexual function, decrease semen volume and negatively affect sperm parameters, depending on dose and treatment duration. α-Blockers might decrease seminal emission and cause retrograde ejaculation, depending on the receptor specificity and dose of the agent. Phosphodiesterase inhibitors seem to have variable effects based on the isoform inhibited and evidence is conflicting. Antihypertensive and psychotropic agents can affect sperm, sexual function and hormonal parameters. For antibiotics, the literature on effects on sperm and sperm function is limited and dated. Many chemotherapeutic agents have a direct gonadotoxic effect, depending on agents used, dosing and number of treatment cycles. Overall, many medications commonly used in urology can have effects on male fertility (mostly reversible) but conclusive evidence in humans is often limited. Men should be counselled appropriately about potential drug-related adverse effects on their fertility.

Database: Medline

32. Antihypertensive therapy causes erectile dysfunction.

Author(s): Chrysant, Steven G

Source: Current opinion in cardiology; Jul 2015; vol. 30 (no. 4); p. 383-390

Publication Date: Jul 2015

Publication Type(s): Journal Article Review

PubMedID: 26049386

Available at Current opinion in cardiology - from Ovid (LWW Total Access Collection 2019 - with Neurology)

Abstract:PURPOSE OF REVIEWErectile dysfunction is a common sexual disorder affecting 40% of men in the United States. However, the pathophysiologic mechanism involved in the causation of erectile dysfunction is multifactorial and not well delineated.RECENT FINDINGSSeveral recent studies disclose that erectile dysfunction is the result of multiple interrelated comorbid conditions that include hypertension, coronary artery disease (CAD), heart failure, and diabetes mellitus among them. In addition to comorbid conditions, certain cardiovascular and antihypertensive drugs are also involved in the development of erectile dysfunction, with the most prominent being the thiazide type diuretics, the aldosterone receptor blockers, and the β-adrenergic receptor blockers. Also, knowledge by the patient of the drug and its action on erectile dysfunction may increase the incidence of erectile dysfunction (Hawthorn effect). Before treatment is initiated, patients should be screened for the presence of erectile dysfunction, because this condition is associated with hypertension, CAD, heart failure, diabetes mellitus, and their treatment and an appropriate treatment regimen should be selected. If that fails, the addition of phosphodiesterase 5 inhibitors to

the treatment regimen is recommended. The only exception is a patient with CAD treated with organic nitrates, in which the coadministration of phosphodiesterase 5 inhibitors is strictly prohibited.SUMMARYKnowledge of the various comorbid conditions and their treatment associated with the development of erectile dysfunction will help the caring physician to treat his patients appropriately and safely. All these aspects will be discussed in this review.

Database: Medline

33. Review article: The safety of therapeutic drugs in male inflammatory bowel disease patients wishing to conceive

Author(s): Sands K.; Jansen R.; Zaslau S.; Greenwald D.

Source: Alimentary Pharmacology and Therapeutics; May 2015; vol. 41 (no. 9); p. 821-834

Publication Date: May 2015

Publication Type(s): Review

PubMedID: 25752753

Available at Alimentary pharmacology & therapeutics - from Wiley Online Library

Abstract: Background: Many therapeutic drugs are used by patients with inflammatory bowel disease, often around the time of conception. The pregnancy outcomes of males and females exposed to these therapeutics needs to be examined and this information is necessary to counsel patients appropriately. Aim(s): To review the literature describing male infertility and inflammatory bowel disease to educate practitioners of the impact of inflammatory bowel disease on male reproduction and the impact of therapeutics on pregnancy outcomes. Method(s): We performed a PubMed search using the search terms 'male infertility,''Crohn's disease,''inflammatory bowel disease,''ulcerative colitis,''ciprofloxacin AND infertility,''metronidazole AND infertility,''sulfasalazine AND infertility,''azathioprine AND infertility,''methotrexate AND infertility,''ciclosporin AND infertility,''corticosteroids AND infertility,''infliximab AND male fertility,''infliximab AND infertility,''infliximab AND foetus,''infl iximab AND paternal exposure' and 'infliximab AND sperm.' References from selected papers were reviewed and used if relevant. Result(s): Over half of male patients with IBD have some degree of infertility, compared to 8-17% of the general population. Semen parameters including total count, motility and morphology may be adversely affected by therapeutics. IBD medications in males do not increase foetal risk with the possible exception of azathioprine and mercaptopurine; however, increased foetal risk is seen in other drugs if taken by female patients. Conclusion(s): It is recognised that male infertility is often impacted with therapeutic drugs used to treat inflammatory bowel disease; however, the effects of the paternal drug exposure at the time of conception and exposure in utero should be considered to counsel patients appropriately.

Database: EMBASE

34. Brief report: No excess risks in offspring with paternal preconception exposure to disease-modifying antirheumatic drugs

Author(s): Wallenius M.; Lie E.; Kvien T.K.; Daltveit A.K.; Salvesen K.A.; Skomsvoll J.F.; Ostensen M.; Kalstad S.; Lexberg A.S.; Mikkelsen K.

Source: Arthritis and Rheumatology; Jan 2015; vol. 67 (no. 1); p. 296-301

Publication Date: Jan 2015

Publication Type(s): Article

PubMedID: 25418443

Available at Arthritis & rheumatology (Hoboken, N.J.) - from Wiley Online Library

Abstract: Objective To examine pregnancy outcomes in the partners of male patients with inflammatory joint disease who were or were not exposed to disease-modifying antirheumatic drugs (DMARDs) before conception compared with the outcomes in reference subjects from the general population.Methods Linkage of data from a longitudinal observational study of patients with inflammatory joint disease (the Norwegian Disease-Modifying Antirheumatic Drug [NOR-DMARD] registry study) and the Medical Birth Registry of Norway (MBRN) enabled a comparison of pregnancy outcomes in the partners of men with inflammatory joint disease. Outcomes of pregnancies in which the father was exposed to DMARDs within 12 weeks of conception and those in which the father was never exposed to DMARDs were analyzed separately and compared with the outcomes in reference subjects. Potential associations between DMARD exposure and adverse pregnancy outcomes were assessed by logistic regression analysis.Results A total of 1,796 men with inflammatory joint disease were associated with 2,777 births in the MBRN. In 110 of these births, the father had been exposed to DMARDs within 12 weeks before conception, and in 230 births the father had never been exposed to DMARDs before conception. The DMARDs (monotherapy or combination treatment) to which the fathers were exposed most frequently within 12 weeks of conception were methotrexate (n = 49), sulfasalazine (n = 17), and tumor necrosis factor inhibitors (n = 57). Neither adverse pregnancy outcomes nor occurrence of congenital malformations differed between patients and reference subjects in either group.Conclusion Preconception paternal exposure to DMARDs was not associated with an increase in adverse pregnancy outcomes. Importantly, no increased risk of congenital malformations was observed.

Database: EMBASE

35. Adefovir as a possible teratogen: evidence from paternal exposure.

Author(s): Gu, Yuanyuan; Ru, Tong; Zhou, Yi-Hua; Hu, Yali

Source: Digestive and liver disease : official journal of the Italian Society of Gastroenterology and the Italian Association for the Study of the Liver; Dec 2014; vol. 46 (no. 12); p. 1134-1135

Publication Date: Dec 2014

Publication Type(s): Letter Case Reports

PubMedID: 25174874

Database: Medline

36. Pregnancy Outcomes Following Maternal and Paternal Exposure to Teriflunomide During Treatment for Relapsing-Remitting Multiple Sclerosis

Author(s): Kieseier B.C.; Benamor M.

Source: Neurology and Therapy; Dec 2014; vol. 3 (no. 2); p. 133-138

Publication Date: Dec 2014

Publication Type(s): Article

Abstract: Introduction: Teriflunomide, indicated for the treatment of relapsing-remitting multiple sclerosis, is contraindicated in pregnancy based on signs of developmental toxicity in the offspring of rats and rabbits; developmental toxicity has also been observed in preclinical studies of other disease-modifying therapies. Despite the requirement to use reliable contraception in clinical trials evaluating the safety and efficacy of teriflunomide, a number of pregnancies have been reported. This work reports pregnancy outcomes in teriflunomide clinical trials.Methods: Pregnancy outcomes were evaluated in a retrospective analysis of the global pharmacovigilance database. The following information was collected from the pharmacovigilance database or individual patient files: treatment allocation, pregnancy outcome, teriflunomide exposure, and use of the accelerated elimination procedure.Results: At data cut-off, 83 pregnancies were reported in female patients and 22 pregnancies were documented in partners of male patients. All newborns were healthy and did not have any structural or functional abnormalities at birth.Conclusion: Available data do not indicate any teratogenic signals in patients treated with teriflunomide.Copyright © 2014, The Author(s).

Database: EMBASE

37. Birth outcomes in newborns fathered by men with multiple sclerosis exposed to disease-modifying drugs

Author(s): Lu E.; Zhu F.; Zhao Y.; Van Der Kop M.; Sadovnick A.D.; Traboulsee A.; Tremlett H.; Dahlgren L.; Synnes A.

Source: CNS Drugs; May 2014; vol. 28 (no. 5); p. 475-482

Publication Date: May 2014

Publication Type(s): Article

PubMedID: 24643915

Abstract: Objective: The aim of this study was to determine the incidence of births fathered by men with multiple sclerosis (MS) exposed to a disease-modifying drug (DMD) around the time of conception, and investigate the association between DMD exposure and birth outcomes in newborns of exposed and unexposed MS fathers. Method(s): Population-based databases in British Columbia (BC), Canada, (the BCMS database, Vital Statistics Birth Registry, Population Data BC Consolidation File/Census GeoData, BC PharmaNet and the BC Perinatal Database Registry) were linked in this retrospective cohort study (1996 to 2010). Multivariate models were used to examine the association between interferon-beta (IFNbeta) or glatiramer acetate (GA) exposure (within 64 days prior to or at conception; i.e., the duration of spermatogenesis) with birth weight and gestational age of newborns. Result(s): Of 195 births fathered by men with relapsing-onset MS, 80 births (41 %) were to fathers treated with a DMD before their child was born, with 53/195 (27 %) exposed within 64 days prior to or at the time of conception. Of the 53 exposed births, 37 were to IFNbeta and 16 to GA. Mean birth weight of IFNbeta-exposed and GA-exposed newborns was similar to that of unexposed newborns (adjusted difference: -107 g for both, $p > 0.3$). IFNbeta-exposed and GA-exposed newborns also had comparable mean gestational ages relative to unexposed newborns (adjusted difference: -0.5 and -0.3 weeks, respectively, $p > 0.2$). Conclusion(s): About one in three would-be fathers with MS were exposed to IFNbeta or GA around the time of conception; there was no compelling evidence to suggest that exposure was associated with either lower birth weight or gestational age. © 2014 Springer International Publishing Switzerland.

Database: EMBASE

38. No evidence for an increased risk of adverse pregnancy outcome after paternal low-dose methotrexate: An observational cohort study

Author(s): Weber-schoendorfer C.; Hoeltzenbein M.; Wacker E.; Schaefer C.; Meister R.

Source: Rheumatology (United Kingdom); Apr 2014; vol. 53 (no. 4); p. 757-763

Publication Date: Apr 2014

Publication Type(s): Article

PubMedID: 24369411

Abstract: Objective: There is increasing awareness of the potential impact of paternal exposures on pregnancy outcome. In particular this applies to MTX, which is used in low doses for the treatment of RA and other inflammatory diseases. MTX is associated with a specific pattern of malformations in fetuses of exposed women, but there is uncertainty concerning the risk of paternal low-dose MTX. The aim of this study was to investigate whether paternal low-dose MTX therapy around conception has an unfavourable effect on pregnancy outcome. Method(s): We performed a prospective observational cohort study involving pregnancies fathered by men who were treated with low-dose MTX around conception. Pregnancies were identified through our Teratology Information Service. Pregnancy outcomes were compared with a cohort neither exposed to MTX nor to other teratogens. Outcomes evaluated were major birth defects, spontaneous abortion (SAB), elective termination of pregnancy, gestational age at delivery, and birth weight. Result(s): A total of 113 pregnancies with paternal low-dose MTX treatment were compared with 412 non-exposed pregnancies. Neither the rate of major birth defects [odds ratio (OR) 1.02, 95% CI 0.05, 7.0) nor the risk of SAB (hazard ratio 1.19, 95% CI 0.65, 2.17) was increased. Gestational age at delivery and birth weights did not differ significantly between groups. The rate of electively terminated pregnancies was increased in the MTX-exposed patients compared with controls. Conclusion(s): Our study does not confirm an increased risk of adverse pregnancy outcome after paternal low-dose MTX therapy. The reassuring findings do not support the necessity of a 3-month MTX-free interval until conception. In the case of unavoidable paternal MTX therapy, it seems reasonable not to postpone family planning.

Database: EMBASE

39. Dermatological medication effects on male fertility.

Author(s): Millsop, Jillian Wong; Heller, Misha M; Eliason, Mark J; Murase, Jenny E

Source: Dermatologic therapy; 2013; vol. 26 (no. 4); p. 337-346

Publication Date: 2013

Publication Type(s): Journal Article Review

PubMedID: 23914891

Available at Dermatologic therapy - from Wiley Online Library

Abstract: Many drugs have been reported to impair semen parameters, leading to temporary or persistent infertility. Therefore, potential fathers may be concerned about the effect of medications on fertility. We searched the MEDLINE database of articles in English combining key terms including "male infertility," "spermatogenesis," "fertility," "drug effects," and "dermatology." Administration of methotrexate and finasteride has resulted in severe oligospermia and reversible infertility. Ketoconazole has had negative effects on sperm motility and testosterone production. Few individual case reports and a limited number of studies have demonstrated negative effects of tetracyclines, erythromycin, chloroquine, glucocorticoids, spironolactone, and antihistamines on fertility. It is important to counsel male patients when appropriate about the reversible negative effect on fertility when taking methotrexate and finasteride, and the adverse effect of ketoconazole. Patients may be reassured that taking oral retinoids, cyclosporine, azathioprine, and tumor necrosis factor alpha inhibitors should not affect their fertility.

Database: Medline

40. Outcomes of pregnancies fathered by solid-organ transplant recipients exposed to mycophenolic acid products.

Author(s): Jones, Alyssa; Clary, Megan J; McDermott, Erin; Coscia, Lisa A; Constantinescu, Serban; Moritz, Michael J; Armenti, Vincent T

Source: Progress in transplantation (Aliso Viejo, Calif.); Jun 2013; vol. 23 (no. 2); p. 153-157

Publication Date: Jun 2013

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 23782663

Available at Progress in transplantation (Aliso Viejo, Calif.) - from ProQuest (Health Research Premium) - NHS Version

Abstract:CONTEXT-In women, exposure to mycophenolic acid products during pregnancy results in an increase in both miscarriages and birth defects in the live born. OBJECTIVE-To describe the outcomes of pregnancies fathered by transplant recipients who were being maintained on mycophenolic acid products at the estimated time of conception and compare these pregnancies with pregnancies in the general population. METHODS- Data were collected by the National Transplantation Pregnancy Registry via questionnaires, telephone interviews, and medical records. RESULTS -One hundred fifty-two male transplant recipients with exposure to mycophenolic acid products fathered 205 pregnancies (208 outcomes, including 3 pairs of twins). Pregnancy outcomes included 194 live births with a prematurity rate of 10.8%, 14 spontaneous abortions, and no therapeutic abortions or stillbirths. Among the live births, 6 malformations were reported, for an incidence of 3.1%. No pattern of malformations was identified. CONCLUSION-The outcomes of pregnancies fathered by transplant recipients treated with mycophenolic acid products appear similar to outcomes in the general population.

Database: Medline

41. Effects of preconceptional paternal drug exposure on birth outcomes: Cohort study of 340000 pregnancies using Norwegian population-based databases

Author(s): Engeland A.; Skurtveit S.; Furu K.; Bjorge T.; Daltveit A.K.; Vollset S.E.; Vangen S.

Source: British Journal of Clinical Pharmacology; Apr 2013; vol. 75 (no. 4); p. 1134-1141

Publication Date: Apr 2013

Publication Type(s): Article

PubMedID: 22897396

Abstract: Aims: We aimed to explore associations between drugs dispensed to the father prior to conception and pregnancy outcomes, such as pre-term birth, perinatal mortality, foetal growth retardation and birth defects. Method(s): In this cohort study, two population-based registries, the Medical Birth Registry of Norway and the Norwegian Prescription Database, were linked. The study cohort consisted of 340000 pregnancies in 2004-10. The association between specific drugs dispensed to the fathers during the last 3 months prior to conception and pregnancy outcomes was explored by estimating odds ratios (ORs) using multivariate logistic regression. Result(s): About one quarter (26%) of the fathers were dispensed at least one drug during the last 3 months prior to conception and 1.3% were dispensed at least one drug requiring special attention. Overall, the odds of different adverse pregnancy outcomes were not increased when the father had been dispensed drugs, i.e. the OR and 95% confidence intervals (CIs) for any birth defect when the fathers had been dispensed any drug were 0.99 (0.94, 1.0). When the fathers had been dispensed diazepam we found increased risk of perinatal mortality and growth retardation, with OR and 95% CIs of 2.2 (1.2, 3.9) and 1.4 (1.2, 1.6), respectively. Conclusion(s): Large studies are necessary to reveal increased risk of rare outcomes as specific birth defects. Our study did not indicate that paternal drug exposure is an important risk factor for adverse pregnancy outcomes. © 2012 The British Pharmacological Society.

Database: EMBASE

42. Drug-induced sexual dysfunction in men and women

Author(s): Conaglen J.V.; Conaglen H.M.

Source: Australian Prescriber; Apr 2013; vol. 36 (no. 2); p. 42-46

Publication Date: Apr 2013

Publication Type(s): Article

Abstract: Many medical conditions and their treatments contribute to sexual dysfunction. Commonly implicated drugs include antihypertensives, antidepressants, antipsychotics and antiandrogens. Understanding the potential for drug-induced sexual problems and their negative impact on adherence to treatment will enable the clinician to tailor treatments for the patient and his or her partner. Encouraging a discussion with the patient about sexual function and providing strategies to manage the problem are critical to good clinical care.

Database: EMBASE

43. Impact of TNF-blocking agents on male sperm characteristics and pregnancy outcomes in fathers exposed to TNF-blocking agents at time of conception.

Author(s): Puchner, Rudolf; Danninger, Kathrin; Puchner, Antonia; Pieringer, Herwig

Source: Clinical and experimental rheumatology; 2012; vol. 30 (no. 5); p. 765-767

Publication Date: 2012

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review Systematic Review

PubMedID: 22935608

Abstract:OBJECTIVESPublished data were analysed to determine if the use of tumour necrosis factor (TNF) blocking agents in male patients during time of conception is associated with an increased risk of fetal abnormalities or complications during pregnancy. Moreover, we were interested in the impact of TNFblocking agents on sperm quality characteristics.METHODSWe performed a systematic literature review (Medline, online archives of Annual European Congress of Rheumatology and the American College of Rheumatology). One-hundred and thirty-nine Articles of potentially relevant reports were identified and screened for retrieval and nine articles were included in the final analysis.RESULTSOverall, there were sixty cases, where expectant fathers used TNFblocking agents shortly before conception. The outcomes of the pregnancies are documented in twenty-eight events. We did not find any documentation of miscarriages or physical abnormities associated with TNF blocking treatment and paternity; however, we did find documentation evidence that sperm motility and vitality even may improve under TNF-blocking therapy. This improvement may be caused by a decrease in disease activity.CONCLUSIONSPublished data suggest that TNF-blocking therapy in male patients during time of conception does not increase the risk of adverse pregnancy outcome. In addition TNF-blocking therapy does not appear to reduce male fertility.

Database: Medline

44. Effects of pharmaceutical medications on male fertility

Author(s): Brezina P.R.; Zhao Y.; Yunus F.N.

Source: Journal of Reproduction and Infertility; 2012; vol. 13 (no. 1); p. 3-11

Publication Date: 2012

Publication Type(s): Review

Available at Journal of Reproduction and Infertility - from ProQuest (Health Research Premium) - NHS Version

Abstract: The number of couples seeking consultation for infertility problems has steadily increased over the past decade, affecting 10%-15% of the sexually active population. Abnormal semen production, a male factor infertility (MFI), is thought to be the cause of up to 50% of all infertilities in developed countries. There are potentially many different causes of male infertility, including hormonal, anatomical, and secondary to exposure to exogenous substances. In many cases of MFI, a definitive cause for abnormalities is never identified. Recently, the research community has given greater attention to identifying causes of MFI ranging from genetic Y chromosome microdeletions to mechanisms of environmental damage on sperm production. Still evolving, is a clear understanding of how many pharmaceutical medications may cause MFI, which is often treatable and reversible. In this review we will outline the data regarding various pharmaceutical medications that have been investigated as possible causes of MFI.

Database: EMBASE

45. Aromatase inhibitors for male infertility

Author(s): Schlegel P.N.

Source: Fertility and Sterility; Dec 2012; vol. 98 (no. 6); p. 1359-1362

Publication Date: Dec 2012

Publication Type(s): Review

PubMedID: 23103016

Abstract: Some men with severely defective sperm production commonly have excess aromatase activity, reflected by low serum testosterone and relatively elevated estradiol levels. Aromatase inhibitors can increase endogenous testosterone production and serum testosterone levels. Treatment of infertile males with the aromatase inhibitors testolactone, anastrazole, and letrozole has been associated with increased sperm production and return of sperm to the ejaculate in men with non-obstructive azoospermia. Use of the aromatase inhibitors anastrazole (1 mg/day) and letrozole (2.5 mg/day) represent off-label use of these agents for impaired spermatogenesis in men with excess aromatase activity (abnormal testosterone/estradiol [T/E] ratios). Side effects have rarely been reported. Randomized controlled trials are needed to define the magnitude of benefit of aromatase inhibitor treatment for infertile men. © 2012 by American Society for Reproductive Medicine.

Database: EMBASE

46. Paternal drug use: before and during pregnancy.

Author(s): Crijns, Ineke; Bos, Jens; Knol, Marissa; Straus, Sabine; de Jong-van den Berg, Lolkje

Source: Expert opinion on drug safety; Jul 2012; vol. 11 (no. 4); p. 513-518

Publication Date: Jul 2012

Publication Type(s): Journal Article

PubMedID: 22439857

Abstract:OBJECTIVEExploratory investigation on drug use by fathers before and during pregnancy with regard to the number of pregnancies.RESEARCH DESIGN AND METHODSData of Dutch community pharmacies were used in which fathers were linked to children. The prevalence of the 15 most prescribed drug groups were calculated per trimester for one trimester preconception and three trimesters during pregnancy. Drugs with possible harmful effect on the semen and/or embryo based on recent safety issues were analyzed for two trimesters before conception. Descriptive statistics was used.RESULTSDuring the four trimesters, fathers had used one or more drugs in 73% of the pregnancies. Per trimester, drug use ranged from 35 to 39%, with the highest prevalence in the third trimester, statistically significant for the use of one or two drugs. Drugs used most frequently belong to 'anti-inflammatory and antirheumatic products'. Drugs such as SSRIs with possible harmful effect on the semen and/or embryo are used in 1.4% by fathers before conception.CONCLUSIONA proportion of 73% of fathers used drugs before and during pregnancy, increasing toward the third trimester. To increase the knowledge on possible effects, organizations like EUROCAT and (EN)(O)TIS might be encouraged to also collect paternal drug use.

Database: Medline

47. Epigenetics and its role in male infertility.

Author(s): Dada, Rima; Kumar, Manoj; Jesudasan, Rachel; Fernández, Jose Luis; Gosálvez, Jaime; Agarwal, Ashok

Source: Journal of assisted reproduction and genetics; Mar 2012; vol. 29 (no. 3); p. 213-223

Publication Date: Mar 2012

Publication Type(s): Journal Article Review

PubMedID: 22290605

Abstract: Male infertility is a common and complex problem affecting 1 in 20 men. Despite voluminous research in this field, in many cases, the underlying causes are unknown. Epigenetic factors play an important role in male infertility and these have been studied extensively. Epigenetic modifications control a number of processes within the body, but this review will concentrate on male fertility and the consequences of aberrant epigenetic regulation/modification. Many recent studies have identified altered epigenetic profiles in sperm from men with oligozoospermia and oligoasthenoteratozoospermia. During gametogenesis and germ cell maturation, germ cells undergo extensive epigenetic reprogramming that involves the establishment of sex-specific patterns in the sperm and oocytes. Increasing evidence suggests that genetic and environmental factors can have negative effects on epigenetic processes controlling implantation, placentation and fetal growth.

This review provides an overview of the epigenetic processes (histone-to-protamine exchange and epigenetic reprogramming post-fertilization), aberrant epigenetic reprogramming and its association with fertility, possible risks for ART techniques, testicular cancer and the effect of environmental factors on the epigenetic processes.

Database: Medline

48. Sexual and reproductive dysfunction associated with antiepileptic drug use in men with epilepsy.

Author(s): Calabrò, Rocco Salvatore; Marino, Silvia; Bramanti, Placido

Source: Expert review of neurotherapeutics; Jun 2011; vol. 11 (no. 6); p. 887-895

Publication Date: Jun 2011

Publication Type(s): Journal Article Review

PubMedID: 21651335

Available at Expert review of neurotherapeutics - from ProQuest (Health Research Premium) - NHS Version

Abstract: The association between epilepsy and sexual disorders has long been known. However, the etiology remains uncertain, although it is likely to be multifactorial in origin involving neurological, endocrine, iatrogenic, psychiatric and psychosocial factors. Sexual disorders associated with epilepsy can be directly related to seizures (ictal), or unrelated in time to seizure occurrence (interictal). The most common sexual dysfunction is hyposexuality, even if hypersexuality and different paraphilias have been reported in males with epilepsy. Epilepsy and antiepileptic drugs can also alter sex hormone levels to promote the development of reproductive endocrine disorders. This article aims to explore the prevalence and etiology of sexual and reproductive dysfunctions in men with epilepsy, highlighting the pivotal role of antiepileptic drugs in their pathogenesis.

Database: Medline

49. Paternal exposure to methotrexate and pregnancy outcomes

Author(s): Beghin D.; Cournot M.-P.; Vauzelle C.; Elefant E.

Source: Journal of Rheumatology; Apr 2011; vol. 38 (no. 4); p. 628-632

Publication Date: Apr 2011

Publication Type(s): Article

PubMedID: 21239747

Abstract: Objective. To assess the risk of major malformation in the case of paternal exposure to methotrexate (MTX) at the time of conception. Methods. Using prospective data of our Teratology Information Service, we analyzed outcomes of paternal MTX exposure at the time of conception or up to 3 months before conception. Results. We report on the outcomes of 42 pregnancies involving 40 men treated with MTX at the time of conception. Twenty-three men were treated for an inflammatory disease (54.8%), 9 for psoriasis (21.4%), and 8 for a malignant disease (19.0%). Weekly dosages varied between 7.5 mg and 30 mg. The pregnancies resulted in 36 live births, 3 spontaneous abortions, and 3 voluntary abortions. No congenital malformation was observed at birth. Conclusion. Based on our results and case reports in literature, paternal MTX exposure at the time of conception does not seem to raise any major concern for offspring. The Journal of Rheumatology Copyright © 2011. All rights reserved.

Database: EMBASE

50. Male fertility-implications of anticancer treatment and strategies to mitigate gonadotoxicity.

Author(s): Ragheb, Ahmed M; Sabanegh, Edmund S

Source: Anti-cancer agents in medicinal chemistry; Jan 2010; vol. 10 (no. 1); p. 92-102

Publication Date: Jan 2010

Publication Type(s): Journal Article Review

PubMedID: 19912104

Abstract: With the advent of the modern cancer treatment, survival rates have improved substantially raising new concerns towards quality of life issues such as future fertility and offspring welfare. Cancer researchers are expanding their focus beyond survival and recurrence rates to include maximization of fertility potential for young cancer patients. Despite promising cure rates with chemotherapy, studies have shown it to act as a double edge sword by adversely affecting male fertility. Chemotherapeutic agents act by hindering rapidly proliferating cells, hence exerting their gonadotoxic effect. The extent of damage to germ cells and eventual fecundity depends on the class of chemotherapeutic agent, dosage, spermatogenetic stage targeted as well as the original pretreatment fertility potential of the patient. In this review, we provide a contemporary overview of the effects of anticancer agents on male fertility. Gonadotoxicity caused by these agents will be analyzed followed by the contemporary measures to preserve future fertility. Both established and potential strategies of fertility preservation will be discussed with emphasis on cryopreservation and its efficacy in conjunction with assisted reproductive technologies in addition to the current recommendations for this preservation modality. Finally, contemporary research on the welfare of offspring of cancer survivors will be reviewed.

Database: Medline

51. Use of antirheumatic drugs in mothers and fathers before and during pregnancy - A population-based cohort study

Author(s): Viktil K.K.; Engeland A.; Furu K.

Source: Pharmacoepidemiology and Drug Safety; 2009; vol. 18 (no. 8); p. 737-742

Publication Date: 2009

Publication Type(s): Article

PubMedID: 19504626

Available at Pharmacoepidemiology and drug safety - from Wiley Online Library

Abstract: Purpose: Exploring the use of antirheumatic drugs in pregnant women and expectant fathers. Method(s): Population-based cohort study, based on linkage of two nationwide databases: the Norwegian Prescription Database was linked to data on 106 000 pregnancies during 2004-2006 from the Medical Birth Registry of Norway. Antirheumatic drugs dispensed to mothers 3 months prior to conception, during pregnancy, and up to 6 months after delivery, and prescriptions to fathers 3 months prior to conception were identified. Result(s): During the 18-month observation period for each pregnancy, 1411 women (1.3% of the women) redeemed at least one antirheumatic drug. Of these, 45% received at least one drug during 3 months prior to conception and 28% in the first trimester. Four women redeemed prescriptions for methotrexate during the 3 months prior to conception, and two women did so during the pregnancy. One of the four women on leflunomide, received the drug 3 months before conception, and two of them during the first trimester. Among the women using etanercept, 19 women redeemed the prescription 3 months before pregnancy, 11 during the first trimester, one in both the second and third trimesters. Three months prior to

conception, 837 expecting fathers (0.8%) redeemed at least one prescription: 40 had sulfasalazin, 36 methotrexate and 28 had biological drugs. Conclusion(s): Three women redeemed leflunomide or methotrexate, which have known teratogenic effects, during their first trimester. While there are high levels of awareness about maternal drug use in pregnancy, drug exposure in fathers shortly before conception should be further explored. Copyright © 2009 John Wiley & Sons, Ltd.

Database: EMBASE

52. Sexual and reproductive issues for men with inflammatory bowel disease.

Author(s): Feagins, Linda A; Kane, Sunanda V

Source: The American journal of gastroenterology; Mar 2009; vol. 104 (no. 3); p. 768-773

Publication Date: Mar 2009

Publication Type(s): Journal Article Review

PubMedID: 19223893

Available at The American journal of gastroenterology - from SpringerLink - Medicine

Available at The American journal of gastroenterology - from ProQuest (Health Research Premium) - NHS Version

Abstract: Relatively little attention has been focused on the reproductive and sexual function issues faced by men with inflammatory bowel disease (IBD). Infertility in men with IBD can be caused by medications used to treat the disease (most notably sulfasalazine), by active inflammation, and by the poor nutritional status that can result from IBD. Sexual function can be adversely affected by some medications used to treat IBD, by the depression that can accompany active IBD, and by proctocolectomy. When men with IBD do father children, there appears to be no increased rate of adverse fetal outcomes. Screening for prostate cancer after proctocolectomy can be challenging, but current data support the use of prostate-specific antigen screening for these patients. This review serves as an outline to assist the clinician in discussing sexual and reproductive issues in male patients with IBD.

Database: Medline

53. The impact of commonly prescribed drugs on male fertility

Author(s): Hayashi T.; Yamada T.; Miyata A.

Source: Human Fertility; 2008; vol. 11 (no. 3); p. 191-196

Publication Date: 2008

Publication Type(s): Article

PubMedID: 18608524

Abstract: To analyze the impact of commonly used drugs on male fertility, we assessed the clinical characteristics of patients with impaired semen quality while they were taking medication for chronic diseases and after switching therapies. Of 1768 infertile males, 201 patients were taking medications and had impaired semen quality without any seminal tract obstruction, spermatogenic abnormalities or hypogonadotropic hypogonadism. Of these 201 men, a total of 165 had no history of testicular diseases nor abnormalities in any examinations. Amongst them, H1 receptor antagonists were the most common medication taken, followed by antiepileptics and antibiotics. They were divided into two groups: an intervention group (73 patients), who could stop or switch their medications, and a control group (92 patients), who could not. In the intervention group, semen quality improvement rate and conception rate (93% and 85%, respectively) were much higher than those of the control group (12% and 10%, respectively). After switching therapies, the time interval before conception was 7.3 months, which was significantly shorter in asthenozoospermia than oligozoospermia. Our results confirm the potential fertility hazards of commonly used drugs and their reversibility. Moreover, after switching medication, drug-induced asthenozoospermia was cured more rapidly than oligozoospermia, suggesting that further delineation of such differences may help to elucidate mechanisms of spermatogenesis and might facilitate the development of non-hormonal male contraceptive agents.

Database: EMBASE

54. Medications that impair male fertility

Author(s): Sigman M.

Source: Sexuality, Reproduction and Menopause; May 2007; vol. 5 (no. 2); p. 11-15

Publication Date: May 2007

Publication Type(s): Article

Database: EMBASE

55. Male fertility and inflammatory bowel disease: Medication use and consequences of disease

Author(s): Mahadevan U.

Source: Practical Gastroenterology; Jun 2005; vol. 29 (no. 6); p. 35-43

Publication Date: Jun 2005

Publication Type(s): Review

Abstract: Inflammatory bowel disease (IBD) affects over 1 million people in the United States, the majority of whom are in their reproductive years. Men with IBD may have lower fertility rates than the general population. Factors that effect fertility include disease activity, surgery and medications, such as sulfasalazine and methotrexate. The safety of D3D medications during the conception period is of great concern to both the patient and the treating physician. The limited available data is reviewed below. As more advanced and aggressive therapy for IBD is developed, more patients may be well enough to consider conception. The effect of novel and established medications on fertility and the subsequent risk of congenital anomalies is an important area for further study.

Database: EMBASE

56. Drug use among fathers around time of conception: Two register based surveys from Denmark and The Netherlands

Author(s): Schirm E.; Tobi H.; de Jong-van den Berg L.T.W.; Pedersen L.; Nielsen G.L.; Sorensen H.T.

Source: Pharmacoepidemiology and Drug Safety; Sep 2004; vol. 13 (no. 9); p. 609-613

Publication Date: Sep 2004

Publication Type(s): Article

PubMedID: 15362083

Abstract: Study objective. Despite the increasing attention for the role of paternal exposures around the period of conception, there is no factual information about drug utilisation of fathers. Therefore, the aim of this study was to describe the drugs dispensed to fathers around conception, using pharmacy dispensing data of community pharmacies in Denmark and The Netherlands. Design and setting. Using pharmacy dispensing data from the Pharmaco-epidemiological Prescription Database of North Jutland in Denmark and the InterAction database in the Netherlands, we examined the prescriptions reimbursed in the half year before conception of 56 735 Danish fathers from 1991 to 2000, and 5859 Dutch fathers from 1995 to 2000. Main results. One third of all fathers had taken up prescriptions for at least one drug in the half year before conception, both in Denmark and in The Netherlands. In the majority of fathers only one type of drug was dispensed, but in both countries at least 5% of all fathers had redeemed three or more types of drugs. The main drugs purchased by fathers in Denmark and The Netherlands were antibiotics (14.3 and 6.3% of all fathers, respectively), analgesics (6.1 and 7.6%), antihistamines (2.0 and 2.0%) and anti-ulcer drugs (1.6 and 2.5%). Conclusion. A large proportion of fathers used drugs around the time of conception. This finding emphasises the importance of safety information on therapeutic drugs with respect to potential paternal teratogenicity. Copyright © 2004 John Wiley & Sons, Ltd.

Database: EMBASE

Strategy 791086

#	Database	Search term	Results
2	Medline	exp "INFERTILITY, MALE"/	26301
3	Medline	exp "CHEMICALLY-INDUCED DISORDERS"/	645252
4	Medline	(2 AND 3)	210
5	Medline	exp OLIGOSPERMIA/ci	333
6	Medline	exp OLIGOSPERMIA/	5328
7	Medline	(3 AND 6)	43
8	Medline	*"INFERTILITY, MALE"/ci	637
9	Medline	*"SPERM MOTILITY"/de	1718
10	Medline	("low sperm count" OR OLIGOSPERMIA).ti	293
11	Medline	(drug OR medication).ti	297944
12	Medline	(10 AND 11)	3
13	Medline	exp "SUBSTANCE-RELATED DISORDERS"/	269594
14	Medline	(6 AND 13)	21
15	Medline	(2 AND 13)	73
16	Medline	exp "SPERM MOTILITY"/	16478
17	Medline	(13 AND 16)	38
18	Medline	(4 OR 5 OR 7 OR 8 OR 9 OR 12 OR 14 OR 15 OR 17)	2807
19	Medline	*"ERECTILE DYSFUNCTION"/ci	361

20	Medline	(18 OR 19)	3160
21	Medline	20 [Document type Review] [Languages English]	213
22	Medline	exp "ABNORMALITIES, DRUG-INDUCED"/ OR exp TERATOGENS/	38391
23	Medline	(paternal OR father*).ti	11286
24	Medline	exp "PATERNAL EXPOSURE"/	985
25	Medline	(23 OR 24)	11994
26	Medline	(teratogeni*).ti	3811
27	Medline	(22 OR 26)	39161
28	Medline	(25 AND 27)	151
29	Medline	(22 AND 23)	72
30	Medline	(gonadotoxic*).ti	151
31	EMBASE	*"MALE INFERTILITY"/	13536
32	EMBASE	*"DRUG INDUCED DISEASE"/	15359
33	EMBASE	(31 AND 32)	5
34	EMBASE	exp "DRUG INDUCED DISEASE"/	90927
35	EMBASE	(31 AND 34)	30
36	EMBASE	exp "MALE INFERTILITY"/	40346
37	EMBASE	(32 AND 36)	19
38	EMBASE	(34 AND 36)	218
39	EMBASE	exp "SPERMATOZOON MOTILITY"/	24816

40	EMBASE	(34 AND 39)	34
41	EMBASE	*"PATERNAL EXPOSURE"/	112
42	EMBASE	exp "FETUS DISEASE"/	113388
43	EMBASE	exp "FETUS DEATH"/	36435
44	EMBASE	exp "PREGNANCY COMPLICATION"/	119073
45	EMBASE	(42 OR 43 OR 44)	235597
46	EMBASE	(41 AND 45)	15
47	EMBASE	exp "TERATOGENIC AGENT"/	28167
48	EMBASE	(41 AND 47)	4
49	EMBASE	exp TERATOGENESIS/	11293
50	EMBASE	(41 AND 49)	4
51	EMBASE	(paternal OR father*).ti	12119
52	EMBASE	(47 AND 51)	31
53	EMBASE	exp "DRUG TOXICITY"/	123503
54	EMBASE	(45 AND 51 AND 53)	2
55	EMBASE	(51 AND 53)	12
56	EMBASE	exp "PATERNAL EXPOSURE"/	266
57	EMBASE	(53 AND 56)	2
58	EMBASE	(47 AND 51)	31
59	EMBASE	(36 AND 53)	115
60	EMBASE	(39 AND 53)	95
61	EMBASE	*"ADVERSE DRUG	118144

		REACTION"/	
62	EMBASE	(36 AND 61)	196
63	EMBASE	*"MALE STERILITY"/	985
64	EMBASE	(53 AND 63)	3
65	EMBASE	(47 AND 56)	8
66	EMBASE	("male reproduction").ti	315
67	EMBASE	(53 AND 66)	2
68	EMBASE	(56 AND 66)	1
69	EMBASE	(34 AND 66)	2
70	EMBASE	exp "DRUG EXPOSURE"/ OR exp "PRENATAL DRUG EXPOSURE"/	47676
71	EMBASE	(45 AND 51 AND 70)	7
72	EMBASE	(51 AND 70)	58
73	EMBASE	(39 AND 53)	95
74	EMBASE	(medication*1 OR drug*1).ti	566418
75	EMBASE	(31 AND 74)	82
76	EMBASE	exp DRUG/	2999620
77	EMBASE	(31 AND 76)	1018
78	EMBASE	77 [Publication types Review] [Languages English]	107
79	EMBASE	exp "NON PRESCRIPTION DRUG"/	14188
80	EMBASE	(31 AND 79)	4

81	EMBASE	*"MALE INFERTILITY"/et	3250
82	EMBASE	(70 AND 81)	10
83	EMBASE	(74 AND 81)	16
84	EMBASE	(76 AND 81)	290
85	EMBASE	exp "DRUG THERAPY"/ae	6480
86	EMBASE	(31 AND 85)	1
87	EMBASE	*"MALE FERTILITY"/	3170
88	EMBASE	(85 AND 87)	0
89	EMBASE	(70 AND 87)	19
90	EMBASE	(56 AND 87)	3
91	EMBASE	("birth outcome*").ti	2075
92	EMBASE	(56 AND 91)	4
93	EMBASE	(51 AND 70 AND 91)	2
94	EMBASE	exp "PRENATAL EXPOSURE"/	23775
96	EMBASE	(51 AND 94)	77
97	EMBASE	exp DRUG/	2999620
98	EMBASE	(51 AND 94 AND 97)	4
100	EMBASE	*FATHER/ OR *"EXPECTANT FATHER"/	3568
101	EMBASE	(94 AND 100)	18
102	EMBASE	(70 AND 100)	7