West Middlesex University Hospital

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Date: 3 October 2017
Sources Searched: Medline, Embase.

Pregnancy Outcomes and Solitary Kidney

See full search strategy

1. Association of Unilateral Renal Agenesis With Adverse Outcomes in Pregnancy: A Matched Cohort Study.

Author(s): Kendrick, Jessica; Holmen, John; You, Zhiying; Smits, Gerard; Chonchol, Michel

Source: American journal of kidney diseases : the official journal of the National Kidney Foundation; Oct 2017; vol. 70 (no. 4); p. 506-511

Publication Date: Oct 2017

Publication Type(s): Journal Article

PubMedID: 28396109

Abstract:BACKGROUNDData regarding the effect of a solitary kidney during pregnancy have come from studies of living kidney donors. We evaluated the risk for adverse pregnancy outcomes in women with a single kidney from renal agenesis.STUDY DESIGNMatched cohort study.SETTING & PARTICIPANTSUsing data from 7,079 childbirths from an integrated health care delivery system from 1996 through 2015, we identified births from women with renal agenesis. Only first pregnancies and singleton births were included. After excluding those with diabetes and kidney disease, 200 women with renal agenesis were matched 1:4 by age (within 2 years), race, and history of hypertension to women with 2 kidneys.PREDICTORRenal agenesis defined by International Classification of Diseases, Ninth Revision (ICD-9) codes prior to pregnancy.OUTCOMESThe primary outcome was adverse maternal outcomes, including preterm delivery, delivery by cesarean section, preeclampsia/eclampsia, and hospital length of stay. Adverse neonatal end points were considered as a secondary outcome and included low birth weight (<2,500g) and infant death/transfer to acute inpatient facility.RESULTSMean gestational age at delivery was 37.9±2.1 weeks for women with renal agenesis compared to 38.6±1.8 weeks for women with 2 kidneys. Compared with women with 2 kidneys, those with renal agenesis had increased risk for preterm delivery (OR, 2.88; 95% CI, 1.86-4.45), delivery by cesarean section (OR, 2.11; 95% CI, 1.49-2.99), preeclampsia/eclampsia (OR, 2.41; 95% CI, 1.23-4.72), and length of stay longer than 3 days (OR, 1.81; 95% CI, 1.18-2.78). Renal agenesis was not significantly associated with increased risk for infant death/transfer to acute facility (OR, 2.60; 95% CI, 0.57-11.89) or low birth weight after accounting for preterm delivery (OR, 2.11; 95% CI, 0.76-5.88).LIMITATIONSRenal agenesis was identified by ICD-9 code, not by imaging of the abdomen.CONCLUSIONWomen with unilateral renal agenesis have a higher risk for adverse outcomes in pregnancy.

Database: Medline

2. Pregnancy Outcome in Patients with Solitary Kidney.

Author(s): Mishra, Vineet V; Mistry, Kavita M; Nanda, Sakshi S; Choudhary, Sumesh; Aggarwal, Rohina; Gandhi, Khushali

Source: Journal of obstetrics and gynaecology of India; Jun 2017; vol. 67 (no. 3); p. 168-172

Publication Date: Jun 2017

Publication Type(s): Journal Article

PubMedID: 28546662

Available at Journal of obstetrics and gynaecology of India - from SpringerLink

Abstract:BACKGROUNDSolitary kidney may be congenital or as a result of nephrectomy. There is a lot of literature available on quality of life in these patients, but there is limited data on pregnancy outcome.OBJECTIVESTo study pregnancy outcome in patients with solitary kidney either congenital or due to nephrectomy.MATERIALS AND METHODSStudy Design This is a retrospective observational study conducted at tertiary health center in Ahmedabad, from 2011 to 2014. Sample Size There were 164 patients of solitary kidney, out of which two patients had congenital solitary kidney and the remaining had solitary kidney due to nephrectomy. Among 164 patients, 96 (58.53 %) patients had completed family, 37 (22.56 %) patients did not try for pregnancy, 15 (9.14 %) patients have conceived, 12 (7.3 %) were lost to follow up and 4 (2.43 %) patients were infertile. Method Patients in reproductive age group (20-40 years), with solitary kidney either congenital or due to nephrectomy, were included. Maternal and fetal outcome was studied, and patients were followed up till 2 years postpartum. Exclusion Criteria Patients with solitary kidney due to post-renal transplant were excluded.RESULTSThere were 15 (9.14 %) patients who had conceived, out of which 11 (73.33) patients delivered and 4 (26.67 %) patients had spontaneous abortion. Two patients developed gestational hypertension and one had preeclampsia. On follow-up, all babies were normal and none of them had delayed developmental milestones.CONCLUSIONPreconceptional counseling should be done in these patients regarding risk of developing preeclampsia during pregnancy and preterm delivery. These patients can have good pregnancy outcome with close monitoring during antenatal period.

Database: Medline

3. Pregnancy in chronic kidney disease and kidney transplantation

Author(s): Webster P.; Lightstone L.; McKay D.B.; Josephson M.A.

Source: Kidney International; May 2017; vol. 91 (no. 5); p. 1047-1056

Publication Date: May 2017

Publication Type(s): Review

Abstract: Chronic kidney disease (CKD) affects up to 6% of women of childbearing age in high income countries, and is estimated to affect 3% of pregnant women. Advanced renal dysfunction, proteinuria, hypertension, and poorly controlled underlying primary renal disease are all significant risks for adverse maternal, fetal, and renal outcomes. In order to achieve the best outcomes, it is therefore of paramount importance that these pregnancies are planned, where possible, to allow the opportunity to counsel women and their partners in advance and to optimize these risks. These pregnancies should be deemed high risk and they require close antenatal monitoring from an expert multidisciplinary team. We discuss the effect of pregnancy on CKD, and also current guidelines and literature with specific reference to transplantation, autoimmune disease, and medication use in pregnancy. We also discuss the benefits of prepregnancy counseling and give practical recommendations to advise pregnant women with renal disease.

Database: EMBASE

4. Managing pregnancy in those who have undergone complex urological reconstruction

Author(s): Rajendran S.; Sihra N.; Wood D.; O'Brien P.

Source: European Urology, Supplements; Mar 2017; vol. 16 (no. 3)

Publication Date: Mar 2017

Publication Type(s): Conference Abstract

Abstract:INTRODUCTION & OBJECTIVES: Many women who have undergone complex urological reconstruction can achieve pregnancy within a normal life. This study aimed to evaluate antenatal and intrapartum management, and outcomes of pregnancy following urinary tract reconstruction. MATERIAL & METHODS: A retrospective review of data collected prospectively between 2010 and 2015 identified 34 pregnancies in 29 patients (median age 31.2 years, range 17-46). Primary abnormality included exstrophy-epispadias (9/29), spinal dysraphism (4/29), sacral agenesis (2/29), Fowler's syndrome (1/29), neuroblastoma (2/29), bladder cancer (1/29), congenital incontinence / small bladder /short urethra (8/29), congenital vesico-ureteric reflux (1/29) and urogenital sinus (1/29). Previous urological reconstruction included augmentation cystoplasty (15), ileal conduit (1), Mitrofanoff channel (15), ureteric reimplantation (4), colposuspension (2), artificial urinary sphincter (2) and antegrade continence enema channel (1). Five patients had a solitary kidney. RESULTS: There were 35 (1 set of twins) live-births comprising 17 girls and 18 boys. Mean gestation at delivery was 36 weeks (33 - 38) and mean birthweight was 2.78 kg (1.79 - 3.50). The majority were delivered by elective Caesarean section (94.1%, 32/34) performed jointly by a urologist and obstetrician. Two women sustained bladder injury during surgery with no long-term complications. Another two women developed vesicocutaneous fistulas which resolved spontaneously (6.25%, 2/32). One woman required early (37 weeks) Caesarean section due to worsening hydronephrosis. Pregnancy-related urological complications included UTI requiring hospital admission (11.8%, 4/34) and upper tract obstruction requiring nephrostomy (20.6%, 7/34). Three women had difficulty with the Mitrofanoff, requiring indwelling catheters. No woman had significant deterioration in renal function. CONCLUSIONS: Pregnancy can be safely managed with preservation of renal function in women with previous urinary tract reconstruction. These women are prone to complications and require shared care and careful monitoring throughout pregnancy to diagnose and manage

complications proactively. Patients should be made aware of the impact of pregnancy and the high rate of pregnancy related complications. Although some of these women could potentially achieve a vaginal birth, we favour planned Caesarean section, jointly performed by an obstetrician and urologist, in patients with complex urinary tract reconstruction, in order to avoid the potential maternal and fetal risks of a complex emergency Caesarean section.

Database: EMBASE

5. Successful Pregnancy Outcome in a Patient with Solitary Kidney Affected by Angiomyolipoma: A Rare Case.

Author(s): Mishra, Vineet Vashistha; Mistry, Kavita; Nanda, Sakshi; Choudhary, Sumesh; Gandhi, Khushali

Source: Journal of clinical and diagnostic research : JCDR; Oct 2016; vol. 10 (no. 10); p. QD06

Publication Date: Oct 2016

Publication Type(s): Journal Article

PubMedID: 27891407

Available at Journal of clinical and diagnostic research : JCDR - from Europe PubMed Central - Open Access

Abstract: Renal angiomyolipoma is a rare benign tumour and its occurrence during pregnancy is even rare. It is usually diagnosed incidentally. It can increase in size during pregnancy and can present acutely as rupture with retroperitoneal haemorrhage, mechanism of which is still unclear. We present a case of successful pregnancy outcome in a patient with congenital solitary kidney affected by angiomyolipoma, diagnosed incidentally at 19 years of age. The patient had conceived twice. Her antenatal and post partum period was uneventful both the times.

Database: Medline

6. Long-Term Outcomes of Living Kidney Donation

Author(s): Slinin Y.; Carlyle M.; Ishani A.; Wilt T.J.; Brasure M.; Eidman K.; Bydash J.; Maripuri S.

Source: Transplantation; Jun 2016; vol. 100 (no. 6); p. 1371-1386

Publication Date: Jun 2016

Publication Type(s): Article

Available at Transplantation - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

Abstract: Background In an effort to improve outcomes associated with living kidney donation, the Kidney Diseases Improving Global Outcomes (KDIGO) assembled a Work Group to develop comprehensive guidelines addressing the evaluation and care of living kidney donors. We conducted this systematic review to inform guideline development. Methods We searched Ovid Medline, Ovid Embase, and the Cochrane Library to identify systematic reviews, randomized controlled trials, and observational studies published through September of 2014 and consulted the KDIGO Expert Work Group. We extracted data from systematic reviews and observational studies with sample size over 100 and mean follow-up time of at least 5 years. Studies had to have an adequate comparison group that excludes subjects with contraindications to kidney donation. Results For the long-Term donor outcomes, we extracted 5 systematic reviews and 40 observational studies. Moderate grade evidence reveals an association between living kidney donation and greater risk of end-stage renal disease. This association is true for donors of all races with African American donors sustaining the greatest increase in absolute risk. We found very low grade evidence that kidney donation is associated with lower kidney function, proteinuria, hypertension, and psychosocial outcomes.

Consistent evidence from 3 studies reveals that donors are at higher risk for preeclampsia and gestational hypertension with postdonation pregnancies and compared with healthy matched nondonors. Conclusions Living kidney donation appears to be associated with a small absolute increase in risk of end-stage renal disease, hypertension, and pregnancy complications, such as preeclampsia and gestational hypertension.

Database: EMBASE

7. Is the left kidney the right one for kidney donation in women planning on future pregnancy?

Author(s): Kiran H.; Kiran G.; Arikan D.; Bakacak M.; Ercan O.; Kostu B.; Yuzbasioglu M.

Source: International Journal of Organ Transplantation Medicine; 2015; vol. 6 (no. 4); p. 182-184

Publication Date: 2015

Publication Type(s): Article

Abstract: The kidney transplantation surgery requires left nephrectomy because of the anatomical disadvantages. But hydroureteronephrosis is the most significant renal functional alteration of pregnancy, accounted for by both hormonal and mechanical factors. Dilatation of the ureters and renal pelvis is more prominent on the right side than the left side and is seen in up to 80% of pregnant women. A 23-year-old woman who become pregnant after 4 months from left kidney donation was admitted to our emergency department with acute right kidney injury during her 39th week of pregnancy. She did not response to conservative treatment and required emergency delivery because of the progressive increase in her serum creatinine levels. After delivery, progressive decrease at creatinine level had been observed and in one month, it had reached the normal level. Mother candidates should be advised they donate their kidneys after completing their childbearing if possible, or undergo right nephrectomy.

Database: EMBASE

8. After live kidney donation: A systematic review and meta-analysis: Long-term followup

Author(s): Janki S.; Klop K.; Dor F.J.M.F.; Ijzermans J.; Betjes M.G.H.

Source: Transplant International; Nov 2015; vol. 28 ; p. 398

Publication Date: Nov 2015

Publication Type(s): Conference Abstract

Abstract: Background: Annually, over 20 000 living individuals donate their kidney and accept the risks associated with major surgery and living with one kidney. A systematic review and meta-analysis were performed to investigate the longterm outcomes of individuals after donation. Methods: Comprehensive searches were performed in MEDLINE, Embase, CENTRAL, OVIDSP and Google Scholar. Articles that reported on long-term outcomes (e.g. kidney function, incidence of morbidity and mortality) with a median follow-up of 10 years or more after donation among adults were included. Results: Out of 5 305 identified articles, 25 were included for analysis: 21 cohort follow up studies, and 10 studies comparing donors with non-donors; of which six were also included in the first segment. Reported outcomes were kidney function, hypertension and diabetes, gestational hypertension and preeclampsia, quality of life, and mortality. The cohort follow up

studies included 10 305 donors, pooled into two groups (i.e., <20 years and over 20 years of follow-up). A meta-analysis revealed increasing donor morbidity with longer follow-up. The second segment of studies comparing donors with non-donors included 5713 donors. Similar long-term outcomes of different studies showed contradictory results, with variability in favor of donors or non-donors (Table 1). Overall quality of life was found to be better among donors. Conclusions: The current literature is inconclusive concerning possible negative consequences of live kidney donation. The main limitation is caused by the heterogeneity of the different donor and non-donor cohorts and the design of studies. This lack of uniformity makes it hazardous to make a final statement on the long-term health status after living kidney donation. Therefore, new high quality studies addressing this important question are necessary to guarantee the safety of living kidney donors. (Figure Presented).

Database: EMBASE

9. Kidney Donation: What Might It Mean for Women Wishing to Become Pregnant.

Author(s): Hladunewich, Michelle A; Kim, S Joseph

Source: American journal of kidney diseases : the official journal of the National Kidney Foundation; Sep 2015; vol. 66 (no. 3); p. 386-388

Publication Date: Sep 2015

Publication Type(s): Editorial Comment

PubMedID: 25987264

Database: Medline

10. Long-term medical risks to the living kidney donor

Author(s): Lam N.N.; Garg A.X.; Lentine K.L.; Levey A.S.; Kasiske B.L.

Source: Nature Reviews Nephrology; Jul 2015; vol. 11 (no. 7); p. 411-419

Publication Date: Jul 2015

Publication Type(s): Review

PubMedID: 25941060

Available at Nature Reviews Nephrology - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Living kidney donation benefits recipients and society but carries short-term and long-term risks for the donor. This Review summarizes the studies that underlie our current understanding of these risks in the first decade after donation, with a view to improving the informed consent process. Two studies report a higher risk of end-stage renal disease (ESRD) among donors than among healthy nondonors; however, the absolute 15-year incidence of ESRD is <1%. All-cause mortality and the risk of cardiovascular events are similar among donors and healthy nondonors, although one study provides evidence for a 5% increase in all-cause mortality after 25 years that is attributable to donation. Some evidence suggests that the 20-year incidence of gout is slightly higher among donors than among healthy nondonors. The risks of gestational hypertension or pre-eclampsia seem to be 6% higher in pregnancies among donors than in pregnancies among healthy nondonors. The incidences of acute kidney injury, kidney stones that require surgical intervention, gastrointestinal bleeding and fractures seem no higher among donors than among healthy nondonors, although some of these conclusions are based on a small number of events. Future studies must clarify the lifetime incidence of long-term outcomes, particularly in relation to a donor's age, race, and history of comorbidities.

Database: EMBASE

11. Gestational hypertension and preeclampsia in living kidney donors

Author(s): Garg A.X.; Nevis I.F.; Mcarthur E.; Sontrop J.M.; Koval J.J.; Lam N.N.; Hildebrand A.M.; Habbous S.; Storsley L.; Gill J.S.; Bugeja A.; Knoll G.A.; Dipchand C.; Monroy-Cuadros M.; Reese P.P.; Segev D.L.; Lentine K.L.

Source: Obstetrical and Gynecological Survey; May 2015; vol. 70 (no. 5); p. 302-303

Publication Date: May 2015

Publication Type(s): Note

Available at Obstetrical and Gynecological Survey - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

Database: EMBASE

12. Are women with a solitary kidney at risk for adverse pregnancy outcomes?

Author(s): Piccoli G.B.; Nazha M.; Vigotti F.N.; Ferraresi M.; Attini R.; Parisi S.; Biolcati M.; Cabiddu G.

Source: Nephrology Dialysis Transplantation; May 2015; vol. 30

Publication Date: May 2015

Publication Type(s): Conference Abstract

Available at Nephrology Dialysis Transplantation - from Oxford Journals - Medicine

Abstract: Introduction and Aims: The assessment of the risks of kidney donation has tremendous social, ethical, economical and clinical implications, in particular in Countries in which living donation is the predominant kidney transplantation; hence the controversy on considering kidney donors as CKD patients. Recent data suggest a higher risk for Preeclampsia in female donors. Methods: Analysis of patients with a single kidney in a large multicentric cohort of pregnant CKD patients, gathering 731 pregnant patients with CKD (in 2000-2013); 53/731 had a single kidney (anatomical or functional). The data of CKD stage 1 with single kidney were discussed with respect to 835 low-risk pregnancies gathered in the same Centers in the same period. Results: Single kidneys accounted for 7% of the overall referred CKD patients; 29 were singleton deliveries in CKD stage 1 women with anatomical or functional single kidney (on overall 265 CKD stage 1 pregnancies). Considering only CKD stage 1, pregnancy outcomes differed significantly from the control low-risk pregnancies, with significantly higher risk for pre-term delivery in mothers with a single kidney (Odds ratio: 8.091 (3.576-18.305); (table). Conclusions: Our data support considering women with single kidney at risk for adverse pregnancy outcomes and in particular of preterm delivery. (Table Presented).

Database: EMBASE

13. Living kidney donation: Outcomes, ethics, and uncertainty

Author(s): Reese P.P.; Boudville N.; Garg A.X.

Source: The Lancet; May 2015; vol. 385 (no. 9981); p. 2003-2013

Publication Date: May 2015

Publication Type(s): Article

PubMedID: 26090646

Available at The Lancet - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract: Since the first living-donor kidney transplantation in 1954, more than half a million living kidney donations have occurred and research has advanced knowledge about long-term donor outcomes. Donors in developed countries have a similar life expectancy and quality of life as healthy non-donors. Living kidney donation is associated with an increased risk of end-stage renal disease, although this outcome is uncommon (<0.5% increase in incidence at 15 years). Kidney donation seems to elevate the risks of gestational hypertension and pre-eclampsia. Many donors incur financial expenses due to factors such as lost wages, need for sick days, and travel expenses. Yet, most donors have no regrets about donation. Living kidney donation is practised ethically when informed consent incorporates information about risks, uncertainty about outcomes is acknowledged when it exists, and a donor's risks are proportional to benefits for the donor and recipient. Future research should determine whether outcomes are similar for donors from developing countries and donors with pre-existing conditions such as obesity.

Database: EMBASE

14. Gestational hypertension and preeclampsia in living kidney donors.

Author(s): Garg, Amit X; Nevis, Immaculate F; McArthur, Eric; Sontrop, Jessica M; Koval, John J; Lam, Ngan N; Hildebrand, Ainslie M; Reese, Peter P; Storsley, Leroy; Gill, John S; Segev, Dorry L; Habbous, Steven; Bugeja, Ann; Knoll, Greg A; Dipchand, Christine; Monroy-Cuadros, Mauricio; Lentine, Krista L; DONOR Network

Source: The New England journal of medicine; Jan 2015; vol. 372 (no. 2); p. 124-133

Publication Date: Jan 2015

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

PubMedID: 25397608

Available at The New England journal of medicine - from Massachusetts Medical Society

Available at The New England journal of medicine - from ProQuest (Hospital Premium Collection) - NHS Version

Abstract:BACKGROUNDYoung women wishing to become living kidney donors frequently ask whether nephrectomy will affect their future pregnancies.METHODSWe conducted a retrospective cohort study of living kidney donors involving 85 women (131 pregnancies after cohort entry) who were matched in a 1:6 ratio with 510 healthy nondonors from the general population (788 pregnancies after cohort entry). Kidney donations occurred between 1992 and 2009 in Ontario, Canada, with follow-up through linked health care databases until March 2013. Donors and nondonors were matched with respect to age, year of cohort entry, residency (urban or rural), income, number of pregnancies before cohort entry, and the time to the first pregnancy after cohort entry. The primary outcome was a hospital diagnosis of gestational hypertension or preeclampsia. Secondary outcomes were each component of the primary outcome examined separately and other maternal and fetal outcomes.RESULTSGestational hypertension or preeclampsia was more common

among living kidney donors than among nondonors (occurring in 15 of 131 pregnancies [11%] vs. 38 of 788 pregnancies [5%]; odds ratio for donors, 2.4; 95% confidence interval, 1.2 to 5.0; P=0.01). Each component of the primary outcome was also more common among donors (odds ratio, 2.5 for gestational hypertension and 2.4 for preeclampsia). There were no significant differences between donors and nondonors with respect to rates of preterm birth (8% and 7%, respectively) or low birth weight (6% and 4%, respectively). There were no reports of maternal death, stillbirth, or neonatal death among the donors. Most women had uncomplicated pregnancies after donation.CONCLUSIONSGestational hypertension or preeclampsia was more likely to be diagnosed in kidney donors than in matched nondonors with similar indicators of baseline health. (Funded by the Canadian Institutes of Health Research and others.).

Database: Medline

15. Pregnancies in women with uterine malformation, treated obstruction of hemivagina and ipsilateral renal agenesis.

Author(s): Heinonen, Pentti K

Source: Archives of gynecology and obstetrics; May 2013; vol. 287 (no. 5); p. 975-978

Publication Date: May 2013

Publication Type(s): Journal Article

PubMedID: 23247278

Available at Archives of gynecology and obstetrics - from SpringerLink

Abstract:PURPOSEThe aim of this study was to evaluate the outcome of pregnancies in women who had uterine malformation and surgically treated obstructed hemivagina with ipsilateral renal agenesis.METHODSThe study group comprised 21 women with malformed uterus (12 didelphic, 6 septate and 3 bicornuate uterus). All of them had a history of surgical excision of the longitudinal vaginal septum caused obstructed hemivagina and ipsilateral renal agenesis. All pregnancies and possible surgical interventions were evaluated during the follow-up period (median 13.2 years).RESULTSThirteen out of 21 women attempting pregnancy conceived. They produced 22 pregnancies, 17 (77 %) were contralateral to the treated obstructed hemivagina and unilateral renal agenesis. The median interval between surgical treatment of obstructed hemivagina and the first pregnancy was 10.5 years. Twenty (91 %) pregnancies ended in delivery of a living infant. Preeclampsia (14 %), preterm delivery (36 %), high frequency (38 %) of fetal breech presentation and the cesarean section rate (67 %) were found.CONCLUSIONSAccurate diagnosis and appropriate surgery to open an obstructed hemivagina in adolescence assure fertility. Preterm birth is associated with malformed uterus and unilateral renal agenesis may predispose to preeclampsia.

Database: Medline

16. A model of care of the single kidney: Before, during and after pregnancy

Author(s): Terry J.; Girling J.

Source: Archives of Disease in Childhood: Fetal and Neonatal Edition; Apr 2012; vol. 97

Publication Date: Apr 2012

Publication Type(s): Conference Abstract

Available at Archives of Disease in Childhood: Fetal and Neonatal Edition - from BMJ Journals - NHS

Abstract: Pregnancy with a single kidney has been primarily evaluated using data from kidney donors. However, in general antenatal clinics, women attend with a single kidney for many other reasons and therefore the outcomes of these pregnancies cannot be predicted based on post donation data. A series of 11 women was identified who entered pregnancy with a single kidney. The reasons varied from congenital absence to renal disease. In this cohort there was a striking lack of awareness of the possible long term consequences of a single kidney and the importance of its optimal care during and after pregnancy amongst both the patients and the obstetric staff. There was a widespread lack of prepregnancy counselling, any regular surveillance in primary care and an unawareness of the importance of maintaining the health of remaining renal tissue. Management plans and counselling varied considerably, reflecting the lack of clear guidance for the care of patients with a single kidney, before during and after pregnancy. Potentially avoidable compromise of renal function is also identified, which will inevitably impact on future renal and therefore general health. We propose a model for coordinated prepregnancy care of women with a single kidney, vigilant monitoring and prompt treatment of complications during pregnancy. It emphasises the unique opportunity we have during pregnancy to educate and engage women and clinicians about the importance of robust care of the remaining kidney and lifelong annual surveillance thereafter to ensure optimal longevity of remaining renal tissue and general health.

Database: EMBASE

17. Long-term outcomes of kidney donors.

Author(s): Morgan, Benjamin R; Ibrahim, Hassan N

Source: Current opinion in nephrology and hypertension; Nov 2011; vol. 20 (no. 6); p. 605-609

Publication Date: Nov 2011

Publication Type(s): Journal Article Review

PubMedID: 21946164

Available at Current opinion in nephrology and hypertension - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

Abstract:PURPOSE OF REVIEW Living kidney donors face a unique decision of self-sacrifice that is not without potential risk. The purpose of this review is to highlight existing research regarding the perioperative morbidity, mortality and long-term outcomes of living kidney donors.RECENT FINDINGSRecent studies of long-term donor survival have affirmed that the life expectancy for living kidney donors is excellent and their risk of end-stage renal disease (ESRD) is not increased. Long-term health outcomes for living donors representing minority groups, however, may not be as favorable. Recent studies conclude that African-American and Hispanic donors, similarly to nondonors of the same race, are at higher risk of developing chronic kidney disease (CKD), hypertension, and diabetes mellitus. Outcomes in medically complex donors have also generated considerable attention, and the evidence on outcomes among otherwise healthy obese and older donors appears to be reassuring.SUMMARYLiving kidney donation is a superior transplantation option for many individuals with ESRD. The survival and health consequences of living donation have

proven to be excellent. These favorable outcomes stem from careful screening measures, and further research endeavors are needed to ensure long-term living donor safety in high-risk donors.

Database: Medline

18. Pregnancy and birth after kidney donation: the Norwegian experience.

Author(s): Reisaeter, A V; Røislien, J; Henriksen, T; Irgens, L M; Hartmann, A

Source: American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons; Apr 2009; vol. 9 (no. 4); p. 820-824

Publication Date: Apr 2009

Publication Type(s): Journal Article

PubMedID: 18853953

Abstract: Reports on pregnancies in kidney donors are scarce. The aim was to assess pregnancy outcomes for previous donors nationwide. The Medical Birth Registry of Norway holds records of births since 1967. Linkage with the Norwegian Renal Registry provided data on pregnancies of kidney donors 1967-2002. A random sample from the Medical Birth Registry was control group, as was pregnancies in kidney donors prior to donation. Differences between groups were assessed by two-sided Fisher's exact tests and with generalized linear mixed models (GLMM). We identified 326 donors with 726 pregnancies, 106 after donation. In unadjusted analysis (Fisher) no differences were observed in the occurrence of preeclampsia ($p = 0.22$). In the adjusted analysis (GLMM) it was more common in pregnancies after donation, 6/106 (5.7%), than in pregnancies before donation 16/620 (2.6%) ($p = 0.026$). The occurrence of stillbirths after donation was 3/106 (2.8%), before donation 7/620 (1.1%), in controls (1.1%) ($p = 0.17$). No differences were observed in the occurrence of adverse pregnancy outcome in kidney donors and in the general population in unadjusted analysis. Our finding of more frequent preeclampsia in pregnancies after kidney donation in the secondary analysis must be interpreted with caution, as the number of events was low.

Database: Medline

19. Pregnancy outcomes after kidney donation.

Author(s): Ibrahim, H N; Akkina, S K; Leister, E; Gillingham, K; Cordner, G; Guo, H; Bailey, R; Rogers, T; Matas, A J

Source: American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons; Apr 2009; vol. 9 (no. 4); p. 825-834

Publication Date: Apr 2009

Publication Type(s): Research Support, N.i.h., Extramural Journal Article

PubMedID: 19353771

Abstract: The outcome of pregnancy in kidney donors has generally been viewed to be favorable. We determined fetal and maternal outcomes in a large cohort of kidney donors. A total of 2102 women have donated a kidney at our institution; 1589 donors responded to our pregnancy surveys; 1085 reported 3213 pregnancies and 504 reported none. Fetal and maternal outcomes in postdonation pregnancies were comparable to published rates in the general population. Postdonation (vs. predonation) pregnancies were associated with a lower likelihood of full-term deliveries (73.7% vs. 84.6%, $p = 0.0004$) and a higher likelihood of fetal loss (19.2% vs. 11.3%, $p < 0.0001$). Postdonation pregnancies were also associated with a higher risk of gestational diabetes (2.7% vs. 0.7%, $p = 0.0001$), gestational hypertension (5.7% vs. 0.6%, $p < 0.0001$), proteinuria (4.3% vs. 1.1%, $p < 0.0001$) and preeclampsia (5.5% vs. 0.8%, $p < 0.0001$). Women who had both pre- and post-donation pregnancies were also more likely to have these adverse maternal outcomes in their postdonation pregnancies. In this large survey of previous living donors in a single center, fetal and maternal outcomes and pregnancy outcomes after kidney donation were similar to those reported in the general population, but inferior to predonation pregnancy outcomes.

Database: Medline

20. Maternal and fetal outcomes after living kidney donation.

Author(s): Nevis, I F; Garg, A X; Donor Nephrectomy Outcomes Research (DONOR) Network

Source: American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons; Apr 2009; vol. 9 (no. 4); p. 661-668

Publication Date: Apr 2009

Publication Type(s): Editorial Comment

PubMedID: 19344459

Abstract: Women considering kidney donation frequently ask whether a nephrectomy will impact their ability to have children. Two new studies consider this issue. We place the new information in the context of previous literature and practice guidelines, and discuss how we should counsel and care for our donors in the year 2009.

Database: Medline

Strategy 283563

#	Database	Search term	Results
1	Medline	(pregnan* ADJ2 outcome*).ti,ab	27630
2	Medline	exp "PREGNANCY OUTCOME"/	48517
3	Medline	exp "PREGNANCY COMPLICATIONS"/	389387
4	Medline	(pregnan* ADJ2 complicat*).ti,ab	21282
5	Medline	(1 OR 2 OR 3 OR 4)	418070
6	Medline	(kidney* ADJ2 donor*).ti,ab	8277
7	Medline	((single OR solitary) ADJ2 kidney).ti,ab	4196
8	Medline	exp "TISSUE AND ORGAN PROCUREMENT"/	17705
9	Medline	exp KIDNEY/	328258
10	Medline	(8 AND 9)	636
11	Medline	(kidney ADJ2 donat*).ti,ab	1883
12	Medline	(6 OR 7 OR 10 OR 11)	13518
13	Medline	(5 AND 12)	128
14	Medline	(absen* ADJ2 kidney).ti,ab	643
15	Medline	(5 AND 14)	29
16	Medline	("living dono*" ADJ3 kidney).ti,ab	1670
17	Medline	(5 AND 16)	6
18	EMBASE	(pregnan* ADJ2 outcome*).ti,ab	35470

19	EMBASE	exp "PREGNANCY OUTCOME"/	46604
20	EMBASE	exp "PREGNANCY COMPLICATIONS"/	124129
21	EMBASE	(pregnan* ADJ2 complicat*).ti,ab	27105
22	EMBASE	(18 OR 19 OR 20 OR 21)	183311
23	EMBASE	exp "KIDNEY DONOR"/	9444
24	EMBASE	exp "KIDNEY TRANSPLANTATION"/	138587
25	EMBASE	(kidney* ADJ2 donor*).ti,ab	12974
26	EMBASE	((single OR solitary) ADJ2 kidney).ti,ab	5004
27	EMBASE	exp "SOLITARY KIDNEY"/	2974
28	EMBASE	(kidney ADJ2 donat*).ti,ab	3055
29	EMBASE	(absen* ADJ2 kidney).ti,ab	393
30	EMBASE	("living dono*" ADJ3 kidney).ti,ab	2753
31	EMBASE	exp "LIVING DONOR"/	25299
32	EMBASE	exp KIDNEY/	407084
33	EMBASE	(31 AND 32)	2633
34	EMBASE	(23 OR 24 OR 25 OR 26 OR 27 OR 28 OR 29 OR 30 OR 33)	148240
35	EMBASE	(22 AND 34)	1679
36	EMBASE	(23 OR 27)	12345
37	EMBASE	(22 AND 36)	240
38	EMBASE	(pregna*).ti	242334

39	EMBASE	(34 AND 38)	1031
40	EMBASE	(nonfunctioning ADJ2 kidney).ti,ab	348
41	EMBASE	(22 AND 40)	0
42	EMBASE	(22 AND 23)	198
43	Medline	("Renal agenesis").ti,ab	1731
44	Medline	("kidney agenesis").ti,ab	106
45	Medline	(43 OR 44)	1814
46	Medline	(5 AND 45)	228
47	EMBASE	*"KIDNEY AGENESIS"/	1216
48	EMBASE	(22 AND 47)	23
49	EMBASE	exp "PATIENT HISTORY OF NEPHRECTOMY"/	243
50	EMBASE	(22 AND 49)	0
51	EMBASE	exp NEPHRECTOMY/	59161
52	EMBASE	(22 AND 51)	200
53	Medline	exp NEPHRECTOMY/	31274
54	Medline	(5 AND 53)	279
55	Medline	(pregnan*).ti,ab	429533
56	Medline	(45 AND 55)	204
57	Medline	("one kidney").ti,ab	1746
58	Medline	(55 AND 57)	30
59	EMBASE	(22 AND 31)	638

60	Medline	exp KIDNEY/in	4442
61	Medline	(5 AND 60)	31
62	EMBASE	exp "KIDNEY INJURY"/	31515
63	EMBASE	(22 AND 62)	173
64	EMBASE	("solitary kidney").ti,ab	2552
65	EMBASE	(22 AND 64)	28