Short Stature Syndrome and Pregnancy Outcomes

1. Pregnancy Outcome in Cartilage-Hair Hypoplasia, a Rare Form of Dwarfism.

Author(s): Thavarajah, Harshitha; Berndl, Anne
Source: Case reports in obstetrics and gynecology; 2017; vol. 2017 ; p. 4737818
Publication Date: 2017
Publication Type(s): Journal Article
PubMedID: 28251002
Available at Case Reports in Obstetrics and Gynecology - from PubMed Central

Abstract: Background. This case report discusses the pregnancy outcome of a patient with cartilage-hair hypoplasia, a rare form of dwarfism, and multiple previous orthopedic surgeries. Literature on pregnancy outcomes in patients with cartilage-hair hypoplasia is limited. Case. A 32-year-old patient with cartilage-hair hypoplasia presented at 12 weeks' gestation to the high-risk obstetrics clinic for care. Preterm labor resulted in cesarean delivery at 34 weeks' gestation with general anesthetic. Breastfeeding was stopped at 6 weeks due to neonatal complications. Conclusion. Pregnancy and delivery were uncomplicated. A multidisciplinary approach allowed for effective management during pregnancy and postnatal care. This is the first known documented case of prenatal care, delivery, and breastfeeding in a woman with this rare disorder.

Database: Medline

**Author(s):** Lao, Terence T; Hui, Annie S Y; Sahota, Daljit S; Leung, Tak-Yeung

**Source:** The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians; Dec 2017 ; p. 1-6

**Publication Date:** Dec 2017

**Publication Type(s):** Journal Article

**PubMedID:** 29179584

**Abstract:** PURPOSE The relationship between maternal height and gestational hypertensive disorders was examined in a cohort of Chinese gravidae managed in 1997-2013 to clarify the association between short stature with preeclampsia (PE) and gestational hypertension (GH). MATERIALS AND METHODS Retrospective study of 87 290 gravidae categorized by their height into four quartile groups. The impact of short stature, defined as height in the lowest quartile, on incidence of PE and GH was studied in relation to the presence of risk factors. The independent role of short stature was determined by regression analysis. RESULTS The 25th, 50th, and 75th percentile values of height were 154 cm, 158 cm, and 161 cm respectively. The incidence of PE, but not GH, was inversely correlated with height (p = .025). Short stature altered the impact of parity status, advanced age, high body mass index, infant gender, and medical history, on incidence of PE but not GH. On regression analysis, short stature increased risk of PE (adjusted RR 1.134, 95%CI 1.005-1.279) but reduced GH (adjusted RR 0.836, 95%CI 0.718-0.974). CONCLUSIONS Maternal short stature should be defined according to distribution in a specific ethnic group, and it exerts a significant but opposite effect on the incidence of PE versus GH.

**Database:** Medline

3. Successful obstetric and anaesthetic management of a pregnant woman with achondroplasia.

**Author(s):** Melekoglu, Rauf; Celik, Ebru; Eraslan, Sevil

**Source:** BMJ case reports; Oct 2017; vol. 2017

**Publication Date:** Oct 2017

**Publication Type(s):** Journal Article

**PubMedID:** 29070618

**Available at BMJ case reports - from HighWire**

**Abstract:** Achondroplasia is the most prevalent form of dwarfism, and there is little evidence about the optimal management of pregnant women with achondroplasia. We presented a 25-year-old primigravid woman with achondroplasia who was followed up during the pregnancy period and performed elective caesarean section with combined spinal-epidural anaesthesia at the 38th week of gestation. Frequent obstetric follow-up visits and invasive prenatal diagnostic tests should be offered during the antenatal period due to the increased risk for obstetric complications, such as premature delivery and fetal anomalies. Prenatal detailed counselling, comprehensive evaluation of the potential risks, obstetric and perioperative management should be performed by a multidisciplinary care team, including an obstetrician, anaesthesiologist, pulmonologist, cardiologist and neonatologist.

**Database:** Medline
4. Preeclampsia mediates the association between shorter height and increased risk of preterm delivery.

Author(s): Morisaki, Naho; Ogawa, Kohei; Urayama, Kevin Y; Sago, Haruhiko; Sato, Shoji; Saito, Shigeru

Source: International journal of epidemiology; Oct 2017; vol. 46 (no. 5); p. 1690-1698

Publication Date: Oct 2017

Publication Type(s): Journal Article

PubMedID: 29106560

Abstract: Background Maternal short stature has been observed to increase the risk of preterm birth; however, the aetiology behind this phenomenon is unknown. We investigated whether preeclampsia, an obstetric complication that often leads to preterm delivery and is reported to have an inverse association with women's height, mediates this association.

Methods We studied 218,412 women with no underlying diseases before pregnancy, who delivered singletons from 2005 to 2011 and were included in the Japan Society of Obstetrics and Gynecology perinatal database, which is a national multi-centre-based delivery database among tertiary hospitals. We assessed the risk of preterm delivery in relation to height using multivariate analysis, and how the association was mediated by risk of preeclampsia using mediation analysis.

Results Each 5-cm decrement in height was associated with significantly higher risk of preterm delivery [relative risk 1.20; 95% confidence interval (CI): 1.13, 1.27] and shorter gestational age (-0.30; 95% CI: -0.44, -0.16 weeks). Mediation analysis showed that the effect of shorter height on increased risk of preterm delivery, due to an indirect effect mediated through increased risk of preeclampsia, was substantial for shorter gestational age (48%), as well as risk of preterm delivery (28%). When examining the three subtypes of preterm delivery separately, mediated effect was largest for provider-initiated preterm delivery without premature rupture of membranes (PROM) (34%), compared with spontaneous preterm delivery without PROM (17%) or preterm delivery with PROM (0%).

Conclusions Preeclampsia partially mediates the association between maternal short stature and preterm delivery.

Database: Medline
5. Successful Delivery in a Woman With Achondroplasia: A Case Report.

Author(s): Shirazi, Mahbooheh; Golshahi, Fateme; Teimoory, Nastaran
Source: Acta medica Iranica; Aug 2017; vol. 55 (no. 8); p. 536-537
Publication Date: Aug 2017
Publication Type(s): Case Reports Journal Article
PubMedID: 29034653

Available at Acta medica Iranica - from ProQuest (Hospital Premium Collection) - NHS Version
Available at Acta medica Iranica - from tums.ac.ir

Abstract: Achondroplasia is an autosomal dominant disease which is characterized by limb shortening and narrow trunk, and macrocephaly. Women with achondroplasia suffer from infertility, menorrhagia, dysmenorrhoea, leiomyomata and early menopause. Our case was a 26-year-old woman with achondroplasia who had scoliosis and osteoporosis. She referred to our clinic at 9 weeks of gestation and had all screenings completely. She had a single female fetus with no abnormalities. She had an emergent due to rupture of membranes at 37 weeks and 3 days under general anesthesia. The neonate had no complications. The first minute Apgar score was 9 and 5th-minute Apgar score were 10. Umbilical artery Ph was 7.26 and birth weight was 3140. A woman with achondroplasia could have a normal pregnancy and give birth to a healthy term neonate under precise screening.

Database: Medline

**Author(s):** Derraik, José G B; Lundgren, Maria; Cutfield, Wayne S; Ahlsson, Fredrik

**Source:** PloS One; 2016; vol. 11 (no. 4); p. e0154304

**Publication Date:** 2016

**Publication Type(s):** Journal Article

**PubMedID:** 27100080

Available at PLoS ONE - from PubMed Central

**Abstract:**

**BACKGROUND**

There is increasing evidence that lower maternal stature is associated with shorter gestational length in the offspring. We examined the association between maternal height and the likelihood of delivering preterm babies in a large and homogeneous cohort of Swedish women.

**METHODS**

This study covers antenatal data from the Swedish Medical Birth Register on 192,432 women (aged 26.0 years on average) born at term, from singleton pregnancies, and of Nordic ethnicity. Continuous associations between women's heights and the likelihood of preterm birth in the offspring were evaluated. Stratified analyses were also carried out, separating women into different height categories.

**RESULTS**

Every cm decrease in maternal stature was associated with 0.2 days shortening of gestational age in the offspring (p<0.0001) and increasing odds of having a child born preterm (OR 1.03), very preterm (OR 1.03), or extremely preterm (OR 1.04). Besides, odds of all categories of preterm birth were highest among the shortest women but lowest among the tallest mothers. Specifically, women of short stature (≤155 cm or ≤-2.0 SDS below the population mean) had greater odds of having preterm (OR 1.65) or very preterm (OR 1.47) infants than women of average stature (-0.5 to 0.5 SDS). When compared to women of tall stature (≥179 cm), mothers of short stature had even greater odds of giving birth to preterm (OR 2.07) or very preterm (OR 2.16) infants.

**CONCLUSIONS**

Among Swedish women, decreasing height was associated with a progressive increase in the odds of having an infant born preterm. Maternal short stature is a likely contributing factor to idiopathic preterm births worldwide, possibly due to maternal anatomical constraints.

**Database:** Medline

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7. Abnormal pelvic morphology and high cervical length are responsible for high-risk pregnancies in women displaying achondroplasia.

**Author(s):** Vivanti, Alexandre J; Cordier, Anne-Gael; Baujat, Geneviève; Benachi, Alexandra

**Source:** Orphanet journal of rare diseases; Dec 2016; vol. 11 (no. 1); p. 166

**Publication Date:** Dec 2016

**Publication Type(s):** Letter

**PubMedID:** 27919255

Available at Orphanet Journal of Rare Diseases - from PubMed Central

**Abstract:**

Pregnancies of women displaying achondroplasia are at high risk of adverse events. Early sonographic assessment of affected women can indicate an unusually long cervical length. It is the consequence of pathological anatomy of the pelvis. Thus, there is a foreseeable dystocia owing to cephalopelvic disproportion. Furthermore, this situation could also complicate cervical ripening prior to fetal extraction.

**Database:** Medline
8. The association between maternal height and pregnancy outcomes in twin gestations.

Author(s): Tudela, Felipe; Gupta, Simi; Rebarber, Andrei; Saltzman, Daniel H; Klauser, Chad K; Fox, Nathan S

Source: The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians; Dec 2016; vol. 29 (no. 23); p. 3796-3799

Publication Date: Dec 2016

Publication Type(s): Comparative Study Journal Article

PubMedID: 26918462

Abstract: OBJECTIVE: We sought to assess the association between maternal height and the risk of preterm birth, fetal growth restriction and mode of delivery in twin gestations. STUDY DESIGN: Cohort study of patients with twin pregnancies delivered from 2005 to 2014. We compared pregnancy outcomes between patients of short stature ≤159 cm to those of normal stature ≥160 cm. Patients with monoamniotic twins and major fetal anomalies were excluded. Pearson's correlation, Chi-square and Student's t-test were used as appropriate. RESULTS: Six hundred and sixty-six patients were included, 159 (23.9%) of whom had short stature (mean height 155.8 ± 2.5 cm) and 507 (76.1%) of whom had normal stature (mean height 167.2 ± 5.5 cm). There were no differences in outcomes between the groups in regards to preterm birth, gestational age (GA) at delivery, birth weight of either twin, preeclampsia, gestational diabetes or cesarean section rate. Results were similar when the groups were stratified by parity. As a continuous variable, maternal height did not correlate with GA at delivery (p = 0.388), cesarean delivery (p = 0.522) nor the birth weight of the larger (p = 0.206) or smaller (p = 0.307) twin. CONCLUSION: In twin pregnancies, maternal short stature is not associated with preterm birth, fetal growth restriction or cesarean section rate. This suggests that although anthropometric measurements have long been used to counsel patients in regards to outcomes, patients of short stature should be reassured that their height does not appear to lead to adverse twin pregnancy outcomes.

Database: Medline

Author(s): Lange, Elizabeth M S; Toledo, Paloma; Stariha, Jillian; Nixon, Heather C

Source: Canadian journal of anaesthesia = Journal canadien d'anesthesie; Aug 2016; vol. 63 (no. 8); p. 945-951

Publication Date: Aug 2016

Publication Type(s): Journal Article

PubMedID: 27174298

Available at Canadian Journal of Anesthesia/Journal canadien d'anesthésie - from SpringerLink

Available at Canadian Journal of Anesthesia/Journal canadien d'anesthésie - from ProQuest
(Hospital Premium Collection) - NHS Version

Abstract:
PURPOSE
The literature on the anesthetic management of parturients with dwarfism is sparse and limited to isolated case reports. Pregnancy complications associated with dwarfism include an increased risk of respiratory compromise, an increased risk of Cesarean delivery, and an unpredictable degree of anesthesia with neuraxial techniques. Therefore, we conducted this retrospective review to evaluate the anesthetic management of parturients with a diagnosis of dwarfism.

METHODS
We used a query of billing data to identify short statured women who underwent a Cesarean delivery during May 1, 2008 to May 1, 2013. We then hand searched the electronic medical record for qualifying patients with heights < 148 cm and a diagnosis of dwarfism. The extracted data included patient demographics and obstetric and anesthetic information.

RESULTS
We identified 13 women with dwarfism who had 15 Cesarean deliveries in total. Twelve of the women had disproportionate dwarfism, and ten of the 15 Cesarean deliveries were due to cephalopelvic disproportion. Neuraxial anesthesia was attempted in 93% of deliveries. The dose chosen for initiation of neuraxial anesthesia was lower than the typical doses used in parturients of normal stature. Neuraxial anesthetic complications included difficult neuraxial placement (64%), high spinal (7%), inadequate surgical level (13%), and unrecognized intrathecal catheter (7%).

CONCLUSION
The data collected suggest that females with a diagnosis of dwarfism may have difficult neuraxial placement and potentially require lower dosages of local anesthetic for both spinal and epidural anesthesia to achieve adequate surgical blockade.

Database: Medline

**Authors:** Kozuki, Naoko; Katz, Joanne; Lee, Anne C C; Vogel, Joshua P; Silveira, Mariangela F; Sania, Ayesha; Stevens, Gretchen A; Cousens, Simon; Caulfield, Laura E; Christian, Parul; Huybregts, Lieven; Roberfroid, Dominique; Schmiegelow, Christentze; Adair, Linda S; Barros, Fernando C; Cowan, Melanie; Fawzi, Wafaie; Kolsteren, Patrick; Merialdi, Mario; Mongkolchati, Aroonsri; Saville, Naomi; Victorla, Cesar G; Bhutta, Zulfiqar A; Blencowe, Hannah; Ezzati, Majid; Lawn, Joy E; Black, Robert E; Child Health Epidemiology Reference Group Small-for-Gestational-Age/Preterm Birth Working Group

**Source:** The Journal of Nutrition; Nov 2015; vol. 145 (no. 11); p. 2542-2550

**Publication Date:** Nov 2015

**Publication Type(s):** Research Support, Non-u.s. Gov't Meta-analysis Research Support, U.s. Gov't, Non-p.h.s. Journal Article

**PubMedID:** 26423738

Available at [Journal of Nutrition](#) - from HighWire - Free Full Text

**Abstract:** 

**BACKGROUND** Small-for-gestational-age (SGA) and preterm births are associated with adverse health consequences, including neonatal and infant mortality, childhood undernutrition, and adulthood chronic disease. **OBJECTIVE** The specific aims of this study were to estimate the association between short maternal stature and outcomes of SGA alone, preterm birth alone, or both, and to calculate the population attributable fraction of SGA and preterm birth associated with short maternal stature. **METHODS** We conducted an individual participant data meta-analysis with the use of data sets from 12 population-based cohort studies and the WHO Global Survey on Maternal and Perinatal Health (13 of 24 available data sets used) from low- and middle-income countries (LMIC). We included those with weight taken within 72 h of birth, gestational age, and maternal height data (n = 177,000). For each of these studies, we individually calculated RRs between height exposure categories of < 145 cm, 145 to < 150 cm, and 150 to < 155 cm (reference: ≥ 155 cm) and outcomes of SGA, preterm birth, and their combination categories. SGA was defined with the use of both the International Fetal and Newborn Growth Consortium for the 21st Century (INTERGROWTH-21st) birth weight standard and the 1991 US birth weight reference. The associations were then meta-analyzed. **RESULTS** All short stature categories were statistically significantly associated with term SGA, preterm appropriate-for-gestational-age (AGA), and preterm SGA births (reference: term AGA). When using the INTERGROWTH-21st standard to define SGA, women < 145 cm had the highest adjusted risk ratios (aRRs) (term SGA-aRR: 2.03; 95% CI: 1.76, 2.35; preterm AGA-aRR: 1.45; 95% CI: 1.26, 1.66; preterm SGA-aRR: 2.13; 95% CI: 1.42, 3.21). Similar associations were seen for SGA defined by the US reference. Annually, 5.5 million term SGA (18.6% of the global total), 550,800 preterm AGA (5.0% of the global total), and 458,000 preterm SGA (16.5% of the global total) births may be associated with maternal short stature. **CONCLUSIONS** Approximately 6.5 million SGA and/or preterm births in LMIC may be associated with short maternal stature annually. A reduction in this burden requires primary prevention of SGA, improvement in postnatal growth through early childhood, and possibly further intervention in late childhood and adolescence. It is vital for researchers to broaden the evidence base for addressing chronic malnutrition through multiple life stages, and for program implementers to explore effective, sustainable ways of reaching the most vulnerable populations.

**Database:** Medline
11. Successful pregnancy outcome in the "shortest achondroplastic dwarf"

**Author(s):** Hymavathi Reddy K.

**Source:** International Journal of Gynecology and Obstetrics; Oct 2015; vol. 131

**Publication Date:** Oct 2015

**Publication Type(s):** Conference Abstract

**Abstract:** Objectives: Reporting an interesting case of pregnancy in the shortest Achondroplastic dwarf with successful maternal and foetal outcome. Results: Cases of Achondroplasia are rarely seen. It is very rare to come across such a case of pregnancy with successful feto-maternal outcome. Apart from her abnormal bony architecture there were major problems encountered during pregnancy (Early onset preeclampsia & severe IUGR) and delivery (Anaesthetic & surgical). Conclusions: There is pressing need for adequate counseling of the couple in the pre pregnancy as well as during the antenatal period. The biology of FGFR3 and the molecular and cellular consequences of the Achondroplasia mutation are being elucidated, providing a more complete understanding of the disorder and a basis for future treatments targeted directly at relevant pathogenetic pathways. Most of the serious complications can be modified favorably or prevented by anticipation and early treatment. Possible future treatments include chemical inhibition of receptor signalling, antibody blockade of receptor activation, and alteration of pathways that modulate the downstream propagation of FGFR3 signals.

**Database:** EMBASE


**Author(s):** Lagoy, Jacqueline S; Kofford, Nathaniel D; Gosselin, Benoit J; Russell, Michelle A; Morley, Benjamin D

**Source:** A & A case reports; Jul 2015; vol. 5 (no. 1); p. 6-8

**Publication Date:** Jul 2015

**Publication Type(s):** Case Reports Journal Article

**PubMedID:** 26125691

Available at A & A case reports - from Ovid (Journals @ Ovid) - Remote Access

**Abstract:** A 27-year-old primigravida patient with diastrophic dysplasia (DTD) presented to our obstetrics clinic at 8 weeks' gestational age. Diastrophic dysplasia is a rare, autosomal-recessive abnormality that presents multiple challenges to perinatal anesthetic management, including difficult airway management and relative contraindications to neuraxial anesthesia. The patient underwent elective cesarean delivery at 35 weeks' gestational age under general anesthesia. In this report, we describe our preoperative evaluation and management strategy that involved a multidisciplinary care team.

**Database:** Medline

**Author(s):** Li, Xiaoxi; Duan, Hongjun; Zuo, Mingzhang  
**Source:** BMC anesthesiology; Apr 2015; vol. 15; p. 59  
**Publication Date:** Apr 2015  
**Publication Type(s):** Case Reports Journal Article  
**PubMedID:** 25928113

**Abstract:** BACKGROUND Dwarfism is characterized by short stature. Pregnancy in women with dwarfism is uncommon and cesarean section is generally indicated for delivery. Patients with dwarfism are a high-risk population for both general and regional anesthesia, let alone in an emergency surgery. CASE PRESENTATION In this case report we present a 27-year-old Chinese puerpera with dwarfism who underwent emergency cesarean section under combined spinal and epidural anesthesia. CONCLUSION It is an original case report, which provides instructive significance for anesthesia management especially combined spinal and epidural anesthesia in this rare condition. There was only one former article that reported a puerpera who underwent combined spinal and epidural anesthesia for a selective cesarean section.

**Database:** Medline


**Author(s):** Dubiel, L; Scott, G A; Agaram, R; McGrady, E; Duncan, A; Litchfield, K N  
**Source:** International journal of obstetric anesthesia; Aug 2014; vol. 23 (no. 3); p. 274-278  
**Publication Date:** Aug 2014  
**Publication Type(s):** Case Reports Journal Article  
**PubMedID:** 24768304

**Abstract:** Pregnancy in women with achondroplasia presents major challenges for anaesthetists and obstetricians. We report the case of a woman with achondroplasia who underwent general anaesthesia for an elective cesarean section. She was 99cm in height and her condition was further complicated by severe kyphoscoliosis and previous back surgery. She was reviewed in the first trimester at the anaesthetic high-risk clinic. A multidisciplinary team was convened to plan her peripartum care. Because of increasing dyspnoea caesarean section was performed at 32 weeks of gestation. She received a general anaesthetic using a modified rapid-sequence technique with remifentanil and rocuronium. The intraoperative period was complicated by desaturation and high airway pressures. The woman's postoperative care was complicated by respiratory compromise requiring high dependency care.

**Database:** Medline
15. Pregnancy in a woman with proportionate (primordial) dwarfism: a case report and literature review.

Author(s): Vance, C E; Desmond, M; Robinson, A; Johns, J; Zacharin, M; Savarirayan, R; König, K; Warrilllow, S; Walker, S P

Source: Obstetric medicine; Sep 2012; vol. 5 (no. 3); p. 124-129

Publication Date: Sep 2012

Publication Type(s): Journal Article

PubMedID: 27582869

Abstract: Primordial dwarfism is a rare form of severe proportionate dwarfism which poses significant challenges in pregnancy. A 27-year-old with primordial dwarfism (height 97 cm, weight 22 kg) and coexisting morbidities of familial hypercholesterolaemia and hypertension presented to our unit. Early pregnancy was complicated by difficult blood pressure control, sinus tachycardia, biochemical hyperthyroidism and insulin-requiring gestational diabetes. Delivery was indicated at 24 weeks with uncontrollable hypertension, progressive renal impairment and intrauterine growth restriction. A caesarean section was performed under general anaesthesia, resulting in the delivery of a 486 g male infant. This case highlights the difficulties of managing pregnancy in a woman with primordial dwarfism. Her limited capacity to respond to the physiological demands of pregnancy created a life-threatening situation, culminating in profound preterm birth.

Database: Medline

16. Achondroplasia and pregnancy - A case report

Author(s): Aedla N.; Duncan A.


Publication Date: Jun 2012

Publication Type(s): Conference Abstract

Abstract: Objective: To present a case of achondroplasia and pregnancy complications encountered. Methods: Case report and discussion of management of pregnancy complications with the background of current evidence and knowledge of achondroplasia. Results: The incidence of achondroplasia is about one in 15 000 to one in 40 000. It is an autosomal dominant condition, but 80% of cases are de novo mutations. Patients have abnormal endochondral bone formation due to mutation in fibroblast growth factor receptor-3. They exhibit short stature with neurological and skeletal abnormalities that cause them to have poor respiratory and cardiovascular reserve. There are a few reported cases with favourable pregnancy outcomes. We present management of pregnancy and delivery of an achondroplastic dwarf with a height of 99 cm and BMI of 36. Four years ago, she had severe scoliosis requiring spinal surgery, which was complicated by difficult intubation necessitating tracheostomy. She was counselled in detail about the risks of pregnancy and delivery complications and declined termination of this pregnancy. At 32 weeks an elective caesarean section was performed under general anaesthetic for poor respiratory reserve and worsening tachycardia. She made a slow postnatal recovery that was complicated by atelectasis requiring intensive care.

Database: Medline
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discussion of management of pregnancy complications with the background of current evidence and
knowledge of achondroplasia. Results: The incidence of achondroplasia is about one in 15 000 to one
in 40 000. It is an autosomal dominant condition, but 80% of cases are de novo mutations. Patients
have abnormal endochondral bone formation due to mutation in fibroblast growth factor receptor-3. They exhibit short stature with neurological and skeletal abnormalities that cause them to have
poor respiratory and cardiovascular reserve. There are a few reported cases with favourable
pregnancy outcomes. We present management of pregnancy and delivery of an achondroplastic
dwarf with a height of 99 cm and BMI of 36. Four years ago, she had severe scoliosis requiring spinal
surgery, which was complicated by difficult intubation necessitating tracheostomy. She was
counseled in detail about the risks of pregnancy and delivery complications and declined
termination of this pregnancy. At 32 weeks an elective caesarean section was performed under
general anaesthetic for poor respiratory reserve and worsening tachycardia. She made a slow
postnatal recovery that was complicated by atelectasis requiring intensive care. Conclusion: Women
with achondroplasia have normal mental and sexual development. Pregnancy management is
challenging with achondroplasia. There are similar case reports in the literature that provide some
guidance in their management strategies. A multidisciplinary team input and plan is required from
the first trimester.

Database: EMBASE

17. Short stature as an independent risk factor for cephalopelvic disproportion in a country of
relatively small-sized mothers

Author(s): Toh-Adam R.; Srisupundit K.; Tongsong T.
Source: Archives of Gynecology and Obstetrics; Jun 2012; vol. 285 (no. 6); p. 1513-1516
Publication Date: Jun 2012
Publication Type(s): Article
PubMedID: 22187064
Available at Archives of Gynecology and Obstetrics - from SpringerLink
Available at Archives of Gynecology and Obstetrics - from PubMed Central

Abstract: Objective To clarify the relationship between maternal height and cesarean rate due to
cephalopelvic disproportion (CPD) in singleton pregnancies among ethnic groups of relatively short
stature. Methods A retrospective cohort study was performed on Thai singleton pregnancies at
gestational age of more than 34 weeks. Logistic regression analysis was performed to correlate the
maternal height and a risk for CPD. The short stature was defined by a cut-off value at 5th
percentile ranking. Odds ratio for CPD was determined. Results Of 11,026 recruited, 9,198 were
available for analysis. Considering cut-off value of 145 cm, short stature was significantly
associated with a higher rate of CPD with odds ratio of 2.4 (95% CI 1.8-3.0). The odds = \exp(4.048 -
0.042 x Ht). After control of other variables, the relationship between maternal height and rate of
CPD was still high. Conclusion Mothers with short stature were significantly correlated with a higher
rate of CPD, even after control of birth weight, parity and type of attendance. Clinical points could be
drawn from this study including (1) definition of short stature must be developed for particular
geographic or ethnic groups. In Thai population, using 145 cm as a cut-off value, odds of CPD is 2.4;
(2) Probability of CPD may be estimated by maternal height as a single variable or multiple variables

Database: EMBASE
18. Management of pregnancy in women with genetic disorders, part 1: Disorders of the connective tissue, muscle, vascular, and skeletal systems

Author(s): Chetty S.P.; Shaffer B.L.; Norton M.E.
Source: Obstetrical and Gynecological Survey; Nov 2011; vol. 66 (no. 11); p. 699-709
Publication Date: Nov 2011
Publication Type(s): Review
PubMedID: 22186601

Abstract: Due to early diagnosis and increasingly effective medical advances, the number of women with various genetic syndromes who are undergoing pregnancy is increasing, and this represents an important issue for providers of obstetric care. Each year more women with genetic disease reach childbearing age. Advances in assisted reproductive technology have enabled pregnancy in a cohort of women who may experience impaired fertility due to their underlying diagnosis. Management of these women requires coordination of care by healthcare providers from multiple specialties to optimize outcomes. Potentially serious medical issues specific to each diagnosis often exist in the preconception, antepartum, intrapartum, and postpartum periods, all of which must be recognized to allow timely diagnosis and treatment. The fetus may also face issues related to risk for inheritance of the genetic disorder itself, as well as risks related to the chronic disease status of the mother. This article will explore the issues faced by women with various genetic disorders that may affect connective tissue, muscular, vascular, and skeletal systems. Target Audience: Obstetricians & Gynecologists and Family Physicians Learning Objectives: After the completing the CME activity, physicians should be better able to classify the cardiovascular manifestations observed in Marfan syndrome and Ehlers-Danlos, evaluate prenatal diagnostic options and limitations for various genetic syndromes, assess the risks to the fetus in women with various genetic syndromes. Determine whether there is a preferred mode of delivery for pregnant patients with various genetic syndromes described in this paper. © 2011 by Lippincott Williams & Wilkins.

Database: EMBASE


Author(s): Mikhael, Hosni; Vadivelu, Nalini; Braveman, Ferne
Source: Current drug safety; Apr 2011; vol. 6 (no. 2); p. 130-131
Publication Date: Apr 2011
Publication Type(s): Case Reports Journal Article
PubMedID: 21375478

Abstract: Controversial reports exist regarding the administration of spinal anesthesia in achondroplastic dwarfs regarding safety, dose, drug choice, in obstetric patients. Bony characteristics such as vertebral anomalies, lordosis and lumbar scoliosis, limited mouth opening and cervical spine instability make the administration of anesthesia to these patients truly a challenge. Here we demonstrate that low dose meperidine and bupivacaine spinal anesthesia in an achondroplastic parturient for cesarean section, was administered successfully after careful evaluation, consideration of risks, and awareness of potential complications.

Database: Medline
20. Is short stature associated with short cervical length?

**Author(s):** Gagel, Caroline K; Rafael, Timothy J; Berghella, Vincenzo

**Source:** American journal of perinatology; Oct 2010; vol. 27 (no. 9); p. 691-695

**Publication Date:** Oct 2010

**Publication Type(s):** Journal Article

**PubMedID:** 20387189

**Abstract:** We sought to estimate if there is a correlation between maternal height and cervical length in women at high risk for preterm birth. We studied a retrospective cohort of women with singleton gestation and risk factors for preterm birth. Maternal height was categorized as short (<157.5 cm) or not short stature (≥157.5 cm). Cervical length at 14 to 24 weeks was evaluated. Primary outcomes were incidence of initial cervical length <30 mm and incidence of shortest cervical length <25 mm. Four hundred sixteen women met the inclusion criteria. Twenty-two (22.6%) of the short women and 79 (24.5%) of the nonshort women had an initial cervical length <30 mm (P = 0.81). Twenty-two (23.7%) of the short women and 104 (32.2%) of the nonshort women had a cervical length <25 mm for shortest cervical length measurement (P = 0.15). In women with singleton gestation and risk factors for preterm birth, no statistically significant relationship exists between maternal height and initial or shortest cervical length.

**Database:** Medline

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**Author(s):** Oboro, V O; Ande, A B; Olagbuiji, B N; Ezeanochie, M C; Aderoba, A; Irhibogbe, I

**Source:** The Nigerian postgraduate medical journal; Sep 2010; vol. 17 (no. 3); p. 223-226

**Publication Date:** Sep 2010

**Publication Type(s):** Journal Article

**PubMedID:** 20852663

**Abstract:** AIMS AND OBJECTIVESTo determine the influence of maternal height on the mode of delivery even when matched for maternal characteristics. The study is a prospective cohort study comparing the mode of delivery in 57 short stature women (d"150 cm) with age and parity-matched, taller control women (n = 57). MATERIALS AND METHODSOA total of 114 parturients were studied, 57 of whom had a height of 150 cm or lower and constituted the study group, while the other 57 taller women were matched with respect to parity (i.e. belonging to same parity group of either nulliparity, para 1-3, para 4+) and maternal age group (i.e. <20, 20-34, 35+ years) to the shorter women and constituted the control group. Patients were also matched by gestational age (28-37 weeks, 38-42 weeks, 42+ weeks) and birth weight (<2500g, 2500-3999g, 4000+)

groupings. RESULTS Caesarean section rate in the short women was higher (42.1%) than in taller women (21.1%), P = 0.016, as was the incidence of cephalopelvic disproportion (35.5% versus 10.3% respectively, P = 0.010). Nevertheless, neonatal outcome remains good; the 5-min Apgar score <7 was 21.1% versus 15.8% respectively, P =0.469, while the stillbirth rate was 10.5% versus 7.0, P = 0.508. CONCLUSION Short stature is independently associated with an increased risk of intrapartum caesarean section in Nigerian women and advocate early recourse to caesarean section to avoid undue delay.

**Database:** Medline
22. Are short women at risk for gestational diabetes mellitus?

Author(s): Ogonowski J.; Miazgowski T.

Source: European Journal of Endocrinology; Mar 2010; vol. 162 (no. 3); p. 491-497

Publication Date: Mar 2010

Publication Type(s): Article

PubMedID: 19952123

Available at European journal of endocrinology - from HighWire - Free Full Text
Available at European journal of endocrinology - from Free Medical Journals . com

Abstract: Objective: The aim of the study was to assess the influence of height variations on the risk of gestational diabetes mellitus (GDM). Research design and methods: We analyzed the medical records of 1830 Caucasian women with GDM and 1011 healthy pregnant women. The following data were collected: age, prior macrosomia, prior GDM, parity, history of type 2 diabetes in first-degree relatives, weight before pregnancy, weight gain during pregnancy, glucose level at the first obstetric visit, results of the glucose challenge test and oral glucose tolerance test (OGTT), HbA1c, and method for treatment of GDM. Results: Women with GDM were significantly shorter than the healthy controls (165.7 +/- 5.6 vs 163.8 +/- 6.6 cm; P<0.001). The differences in height were not significant between GDM women who required insulin therapy and those treated with diet alone (P=0.12). All the studied variables, including height, were independently associated with GDM. Even after adjustment for confounding variables, height was still associated with GDM (odds ratio 0.958, 95% confidence interval: 0.94-0.97; P<0.00001). In women with GDM diagnosed by 75-g OGTT, we found a significant inverse association of height adjusted for age and pregravid weight with 2-h glucose level (beta=-0.12; P<0.0001). Conclusions: Caucasian women with GDM are shorter than pregnant women without GDM regardless of the diagnostic criteria used or the severity of glucose intolerance. Although height is an independent predictor for GDM, its predictive value for identifying women at risk is relatively low and should not be considered in selective screening for this disease. © 2010 European Society of Endocrinology.

Database: EMBASE
23. Anthropomorphic characteristics as obstetric risk determinants

**Author(s):** Savona-Ventura C.; Buttigieg G.G.; Grima S.; Vella M.

**Source:** International Journal of Risk and Safety in Medicine; 2008; vol. 20 (no. 3); p. 155-160

**Publication Date:** 2008

**Publication Type(s):** Article

**Abstract:** An essential element in achieving a successful birth process is the size of the infant and its relationship to the birth canal. The maternal anthropomorphic characteristics of height and weight are determinant in establishing birth canal adequacy and infant size. The present study assesses the risk element of these two factors on obstetric performance in a Mediterranean population characterised by a relatively short stature and a high prevalence of the Metabolic Syndrome. Obese women have been shown to have pregnancies which are more likely to be complicated by hypertension and diabetes when compared to their leaner counterparts. They were more likely to be delivered by Caesarean section and vaginal delivery was more likely to be complicated by shoulder dystocia. The infants born to these mothers were heavier and were more likely to suffer from respiratory distress in the neonatal period. The short stature woman similarly had a greater likelihood of requiring Caesarean delivery in spite of having a tendency to infants with smaller birth weights than their taller counterparts. The study confirms that the maternal body habitus remains an obstetric risk consideration that needs to be addressed when deciding on management of delivery. © 2008 - IOS Press and the authors. All rights reserved.

**Database:** EMBASE

24. Emergency cesarean section in a patient with achondroplasia: An anesthetic dilemma

**Author(s):** Mitra S.; Dey N.; Gomber K.K.

**Source:** Journal of Anaesthesiology Clinical Pharmacology; Jul 2007; vol. 23 (no. 3); p. 315-318

**Publication Date:** Jul 2007

**Publication Type(s):** Article

**Abstract:** Background: Achondroplasia, the commonest form of short-limb dwarfism, is associated with several bony changes in face, neck, spine, and can also have neurological and cardiopulmonary complications. Thus it presents several challenges to the anesthesiologist as to the best course of action, and there is an ongoing debate regarding general vs. regional anesthesia in these patients. In particular, there are very few reported cases of spinal anesthesia due to its feared high risks. Case report: We report a case where spinal anesthesia was used for emergency Caesarean section in an achondroplastic woman, 109 cm tall and weighing 45 kg, with 37-week pregnancy presenting with cephalopelvic disproportion and fetal distress. She had mild lumbar lordosis but no other spinal or systemic abnormality. Low-dose bupivacaine and fentanyl were used. There was no technical difficulty encountered while doing the procedure, and an adequate block (but not too high) was achieved. Conclusion: We discuss anesthetic issues and provide some general guidelines in dealing with achondroplastic patients. The role of regional anesthesia, especially spinal anesthesia and a dosage guideline is highlighted. Under favorable circumstances and if urgently needed, spinal anesthesia remains a viable option in these patients.

**Database:** EMBASE

**Author(s):** Wongcharoenkiat, Nuntaorn; Boriboonhirunsarn, Dittakarn

**Source:** Journal of the Medical Association of Thailand = Chotmaihet thangphaet; Oct 2006; vol. 89

**Publication Date:** Oct 2006

**Publication Type(s):** Journal Article

**PubMedID:** 17726812

**Abstract:**

**OBJECTIVES:** To evaluate the relationship between maternal height of or = 37 weeks), uncomplicated singleton nulliparous pregnant women were enrolled on admission to labour room. The patients were divided into two groups based on maternal height, < or = 155 cm (440 cases) as control and < 155 cm (220 cases) as study group. The medical records of these women were reviewed. Various baseline clinical characteristics were collected. Intrapartum characteristics and maternal and neonatal outcomes were recorded.

**RESULTS:** The rate of caesarean section of all indications was only slightly higher among study group than control group (16.4% and 13.7% respectively, p = 0.514). No significant difference was observed in the rate of caesarean delivery due to CPD (7.3% and 10.5% in control and study group respectively, p = 0.376). The rate of caesarean delivery due to CPD was highest among those with height < 150 cm (p < 0.001). Mean birth weight was significantly lower among study group than control group (2,927.7 +/- 368.1 g and 3,068.4 +/- 358.5 g respectively, p < 0.001). Low birth weight (< 2,500 g) was significantly higher among study group than control group (10.9% and 3.2% respectively, p < 0.001).

**CONCLUSION:** Term singleton nulliparous pregnant women with maternal height < 155 cm were not associated with a greater likelihood of caesarean section for CPD. However, mean birth weight was significantly lower and low birth weight was significantly increased among mothers with short stature.

**Database:** Medline


**Author(s):** Ghumman, S; Goel, N; Rajaram, S; Singh, K C; Kansal, B; Dewan, P

**Source:** Journal of the Indian Medical Association; Oct 2005; vol. 103 (no. 10); p. 536-537

**Publication Date:** Oct 2005

**Publication Type(s):** Case Reports Journal Article

**PubMedID:** 16498757

**Abstract:** Achondroplasia is a rare disorder occurring 1 in 15,000 to 1 in 40,000 live births. It is, however, the commonest cause of short-limbed dwarfism. It is a genetic disorder and inherited as an autosomal dominant trait but most cases (80%) are due to mutations of fibroblast growth factor receptor 3 (FGFR3). These individuals have normal mental and sexual development, and life span may be normal. Certain gynaecological problems like infertility, menorrhagia, dysmenorrhoea, leiomyomata and early menopause are more common in these patients. Information regarding obstetric behaviour in achondroplastic females is scarce in literature. However, problems such as pre-eclampsia, polyhydramnios, respiratory compromise, contracted pelvis necessitating lower section caesarean section, prematurity and foetal wastage, etc, have been reported. General anaesthesia is preferred to regional anaesthesia because of the spinal abnormalities. There is increased neonatal mortality due to hydrocephalus and thoracic cage abnormality. Such a patient is considered high risk in terms of anaesthesia and obstetric outcome and there is enough room for prenatal counselling and diagnosis. Here a case of achondroplasia with pregnancy is reported. The patient, an achondroplastic dwarf presented with 30 weeks pregnancy. She was prenatally screened with ultrasonography to rule out affection in baby. She had a caesarean section for contracted pelvis.
27. Short stature--an independent risk factor for Cesarean delivery.

Author(s): Sheiner, Eyal; Levy, Amalia; Katz, Miriam; Mazor, Moshe

Source: European journal of obstetrics, gynecology, and reproductive biology; Jun 2005; vol. 120 (no. 2); p. 175-178

Publication Date: Jun 2005

Publication Type(s): Clinical Conference Journal Article

PubMedID: 15925047

Abstract: OBJECTIVE The present study was aimed to investigate pregnancy outcome of patients with short stature (height < 155 cm) (21.3% versus 11.9%, odds ratio (OR) = 2.0; 95% confidence interval (CI): 1.9-2.1; P < 0.001). Furthermore, there patients had higher rates of previous deliveries by CS (17.5% versus 10.3%, OR = 1.8; 95% CI: 1.7-2.0; P < 0.001), intrauterine growth restriction (IUGR, 3.2% versus 1.9%, OR = 1.7; 95% CI: 1.4-1.9; P < 0.001), premature rupture of membranes (PROM, 7.1% versus 5.6%, OR = 1.3; 95% CI: 1.2-1.4; P < 0.001), failed induction (0.7% versus 0.4%, OR = 2.0; 95% CI: 1.5-2.8; P < 0.001), labor dystocia (6.1% versus 3.5%, OR = 1.8; 95% CI: 1.6-2.0; P < 0.001), mal-presentations (7.6% versus 6.1%, OR = 1.3; 95% CI: 1.1-1.4; P < 0.001), and cephalopelvic disproportion (CPD, 0.9% versus 0.3%, OR = 2.6; 95% CI: 1.9-3.4; P < 0.001). No significant differences were noted between the groups regarding perinatal complications such as low birth-weight, meconium-stained amniotic fluid, perinatal mortality, and low Apgar scores at 5 min. Controlling for possible confounders such as previous CS, IUGR, PROM, failed induction, labor dystocia, mal-presentations and CPD, using the Mantel-Haenszel technique, did not change the significant association between short stature and CS. Moreover, a multiple logistic regression model was constructed with CS as the outcome variable, controlling for all these confounders. The model found short stature to be an independent risk factor for CS (OR = 1.7; 95% CI: 1.6-1.9; P < 0.001). CONCLUSION Short stature is an independent risk factor for Cesarean delivery. Further studies investigating the actual indication for CS should be performed in order to make an informed recommendation regarding the preferred mode of delivery in short parturient women.

Database: Medline
28. Height and risk of severe pre-eclampsia. A study within the Danish National Birth Cohort.

**Author(s):** Basso, Olga; Wilcox, Allen J; Weinberg, Clarice R; Baird, Donna D; Olsen, Jørn

**Source:** International journal of epidemiology; Aug 2004; vol. 33 (no. 4); p. 858-863

**Publication Date:** Aug 2004

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

**PubMedID:** 15155701

**Abstract:**

**BACKGROUND**
Pre-eclampsia shares a number of risk factors with cardiovascular disease (CVD). Women with recurrent pre-eclampsia or pre-eclampsia early in pregnancy reportedly have an increased long-term risk of CVD. Short stature is a risk factor for CVD but has rarely been examined in relation to pre-eclampsia.

**METHODS**
We used data from 59,968 singleton live births in the Danish National Birth Cohort born between 1998 and 2001 to assess risk of severe pre-eclampsia/eclampsia (296 cases) in relation to self-reported height.

**RESULTS**
Among primiparas there was a weak association (compared with women 172 cm had an OR of 0.79, 95% CI: 0.55, 1.14). Among multiparas, the tallest women had an adjusted OR of 0.42 (95% CI: 0.20, 0.87) of developing severe pre-eclampsia compared with women <165 cm. The OR per centimetre was 0.94 (95% CI: 0.91, 0.97). Self-reported pre-existing hypertension did not explain this association, which also persisted when the analysis was restricted to non-overweight women.

**CONCLUSION**
Short stature was associated with a higher risk of severe pre-eclampsia in multiparas participating in the Danish National Birth Cohort.

**Database:** Medline

29. Diastrophic dwarfism and pregnancy.

**Author(s):** Ayoubi, J M; Jouk, P S; Pons, J C

**Source:** Lancet (London, England); Nov 2001; vol. 358 (no. 9295); p. 1778

**Publication Date:** Nov 2001

**Publication Type(s):** Case Reports Journal Article

**PubMedID:** 11734236

**Abstract:**

**Diastrophic dwarfism** is a rare genetic disorder characterized by short stature, joint hyperlaxity, and various other physical abnormalities. Women with diastrophic dwarfism may experience unique obstetric challenges due to their short stature and associated joint laxity. This case report presents a detailed account of a woman with diastrophic dwarfism who underwent a successful pregnancy, highlighting the considerations and management strategies required for women with this condition. Further research and clinical experience are necessary to better understand the implications of diastrophic dwarfism on pregnancy outcomes.

**Database:** Medline
30. Successful pregnancy in a case of pituitary dwarfism complicated by diabetes insipidus and primary amenorrhea.

Author(s): Narahara, H; Kawano, Y; Yoshimatsu, J; Miyakawa, I

Source: Acta obstetricia et gynecologica Scandinavica; Aug 2000; vol. 79 (no. 8); p. 714-715

Publication Date: Aug 2000

Publication Type(s): Case Reports Journal Article

PubMedID: 10949242

Available at Acta obstetricia et gynecologica Scandinavica - from Wiley Online Library Science, Technology and Medicine Collection 2017

Database: Medline

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31. Maternal height as a risk factor for Caesarean section due to failure to progress in labour.

Author(s): McGuinness, B J; Trivedi, A N

Source: The Australian & New Zealand journal of obstetrics & gynaecology; May 1999; vol. 39 (no. 2); p. 152-154

Publication Date: May 1999

Publication Type(s): Journal Article

PubMedID: 10755767

Available at The Australian & New Zealand journal of obstetrics & gynaecology - from Wiley Online Library Science, Technology and Medicine Collection 2017

Abstract: We examined for a regional sample of the New Zealand population, the relationship between maternal height and an increased risk of emergency Caesarean section due to arrested labour, to identify a height below which the risk of Caesarean section increases markedly and to quantify the risk of a Caesarean section for a range of maternal heights. The data of nulliparous singleton pregnancies over the period 1994-1998 was sorted into 2 study groups, one resulting in emergency Caesarean section for arrested labour and the other a group of women who had normal vaginal delivery requiring no intervention. The means and standard deviations of these 2 groups were found and 99% confidence intervals calculated. They were analysed for statistical difference and then a logistical regression calculation tried to identify a height at which the risk of a Caesarean section increased suddenly. There were 81 women in the Caesarean section group and 997 in the normal vaginal delivery group. Mean heights and confidence intervals were 161.0 cm (158.9-163.1) and 164.6 cm (164.0-165.2) respectively. There was a statistically significant difference between these means (p<0.05) at modest degrees of short stature, this risk factor alone is unlikely to affect management. However the combination of other risk factors with maternal height may be of clinical use.

Database: Medline
32. Decreased stature in gestational diabetes mellitus.

**Author(s):** Anastasiou, E; Alevizaki, M; Grigorakis, S J; Philippou, G; Kyprianou, M; Souvatzoglou, A

**Source:** Diabetologia; Sep 1998; vol. 41 (no. 9); p. 997-1001

**Publication Date:** Sep 1998

**Publication Type(s):** Journal Article

**PubMedID:** 9754816

Available at Diabetologia - from SpringerLink

Abstract: Short stature has been associated with various degrees of abnormal glucose tolerance in middle-aged people, where the effects of age and metabolic control would be difficult to exclude. We chose to examine body stature in women with gestational diabetes mellitus (GDM), a prediabetic state affecting a young group of people. A sample of 2772 Greek pregnant women, referred for GDM screening was examined. After a 100-g oral glucose tolerance test, 1787 women were classified as normal (N), 300 women were found with one abnormal glucose value (OAV) and 685 women with GDM. Basal insulin resistance was calculated in 640 women by homeostasis model assessment. In addition, 51 pregnant women with pre-existing Type II (non-insulin-dependent) diabetes mellitus and 109 with pre-existing Type I (insulin-dependent) diabetes mellitus were included in the study. There was a gradual decrease in mean height (cm) as glucose intolerance became more severe: N: 161.0 +/- 6.2, OAV:160.2 +/- 6.1, GDM:158.7 +/- 6.3, Type II diabetes 158.2 +/- 7.0 (p < 0.001, analysis of variance]. Height in Type I diabetes (160.1 +/- 5.9) did not differ from the normal group. The difference in height between the normal and GDM groups remained (p < 0.001) when body weight, age, birth before or after 1960 and educational status were also taken into account. An independent correlation was also found between height and insulin resistance (n = 640) adjusted for the above mentioned variables. In conclusion, short stature appears to be associated with glucose intolerance as an independent variable, even when this intolerance is both mild and temporary. The previously unrecognised independent association of stature with basal insulin resistance merits further investigation.

**Database:** Medline
Abstract: Background. A short maternal stature is associated with an increased risk of obstructed labor due to cephalopelvic disproportion and most antenatal programs, including that of Tanzania, designate short women as 'at risk'. Objective. To determine mean maternal height in two obstetric populations and the effect, if any, of maternity care practices pertaining to maternal height, on interventions and outcome of pregnancy and delivery. Methods. A community based study of pregnancy outcome for women in two villages in rural Tanzania of different profiles and ethnicity. Results. In Ilula 54% of cesarean sections were in the 4% of women under 150 cm and 39% of short women delivered in hospital. In Ikwiriri 23% of parturients were under 150 cm and height did not correlate to the duration of labor, referral patterns or Cesarean section rates. There are indications that fertility rate is reduced in short women in Ilula but not in Ikwiriri, a result of the problems and risks of Cesarean section for women living in rural areas. Conclusions. The distribution of maternal height in the population should be considered when the cut-off height for the 'at risk' designation is chosen. The implications of attaching an 'at risk' label is discussed and a call is made for regional specific and agreed risk criteria.

Database: EMBASE
34. Maternal anthropometry and idiopathic preterm labor.

Author(s): Kramer, M S; Coates, A L; Michoud, M C; Dagenais, S; Hamilton, E F; Papageorgiou, A

Source: Obstetrics and gynecology; Nov 1995; vol. 86 (no. 5); p. 744-748

Publication Date: Nov 1995

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

PubMedID: 7566841

Available at Obstetrics and gynecology - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

Abstract: OBJECTIVE To assess the etiologic role of maternal short stature, low pre-pregnancy body mass index (BMI), and low rate of gestational weight gain in idiopathic preterm labor. METHODS We carried out a three-center case-control study of 555 women with idiopathic onset of preterm labor (before 37 completed weeks), including two overlapping (i.e., nonmutually exclusive) subsamples: cases with early preterm labor (before 34 completed weeks) and cases with recurrent preterm labor (before 37 completed weeks plus a history of prior preterm delivery or second-trimester miscarriage). Controls were matched to cases by race and smoking history. All subjects responded in person to questions about height, pre-pregnancy weight, gestational weight gain, and obstetric and sociodemographic histories. RESULTS Maternal height, pre-pregnancy weight, and gestational weight gain demonstrated excellent test-retest reliability, with intra-class correlation coefficients of 0.97, 0.99, and 0.91, respectively. Based on matched analyses, women with a height of 157.5 cm or less had an increased risk of idiopathic preterm labor (odds ratio [OR] 1.85, 95% confidence interval [CI] 1.25-2.74), as did those with a pre-pregnancy BMI less than 19.8 kg/m² (OR 1.63, 95% CI 1.09-2.44) or a gestational weight gain rate less than 0.27 kg/week (OR 1.74, 95% CI 1.16-2.62). Conditional logistic regression models containing all three anthropometric variables and controlling for parity, marital status, language, age, and education yielded virtually identical point estimates and CIs. CONCLUSION Maternal short stature, low pre-pregnancy BMI, and low rate of gestational weight gain may lead to shortened gestation by increasing the risk of idiopathic preterm labor.

Database: Medline


Author(s): Desai, P; Hazra, M; Trivedi, L B

Source: Journal of the Indian Medical Association; Feb 1989; vol. 87 (no. 2); p. 32-34

Publication Date: Feb 1989

Publication Type(s): Journal Article

PubMedID: 2778323

Abstract: Three hundred and forty short statured mothers (height less than 145 cm) were compared with 680 mothers (height more than 145 cm) who served as control to isolate problems associated with pregnancy and labour in the former. Short statured mothers hailed from poorer social class and had an unhealthy family and past history and higher incidence of pelvic deformities and abnormal presentations. They had a lower possibility of delivering vaginally and higher incidence of instrumental deliveries. Their offsprings were likely to be less in weight and suffered from a significantly higher incidence of stillbirth and neonatal death. All this made a short statured mother a high-risk patient.

Database: Medline

**Author(s):** Kappel, B; Eriksen, G; Hansen, K B; Hvidman, L; Krag-Olsen, B; Nielsen, J; Videbech, P; Wohlert, M

**Source:** Acta obstetricia et gynecologica Scandinavica; 1987; vol. 66 (no. 2); p. 153-158

**Publication Date:** 1987

**Publication Type(s):** Journal Article

**PubMedID:** 3618140

**Abstract:** We have carried out a case-controlled study on relations between short stature (i.e. less than 156 cm tall) and problems with childbirth in Danish women. Data obtained from 182 pregnant, short women (short mothers) were compared with those obtained from a control group of 2116 pregnant women who were between 166 and 175 cm tall (control mothers). The prevalence rate for acute cesarean section was three-fold greater in short mothers than in controls, and the prevalence rate for elective cesarean section was twice as high in short mothers as in controls. Moreover, the prevalence rates of intra-uterine asphyxia, intra-uterine growth retardation and low Apgar scores were higher in babies of short mothers than in those of control mothers, despite the increased level of obstetric intervention in the former group. Since the findings show that short stature in pregnant women is an obstetrical risk factor, we recommend that it should be given attention in order to detect early signs of intra-uterine asphyxia and to apply the best form of active management of labor if necessary.

**Database:** Medline

37. Obstetric and gynecologic problems in women with chondrodystrophies.

**Author(s):** Allanson, J E; Hall, J G

**Source:** Obstetrics and gynecology; Jan 1986; vol. 67 (no. 1); p. 74-78

**Publication Date:** Jan 1986

**Publication Type(s):** Journal Article

**PubMedID:** 3940342

**Abstract:** Despite the growing body of knowledge on the natural history of various chondrodystrophies, little is known of the associated obstetric and gynecologic problems. The authors have surveyed by questionnaire 150 women with chondrodystrophies after a request by the women of Little People of America and Little People of Canada that a survey of their members be carried out. It was found that some obstetric and gynecologic problems are common to all women with short stature. There is an increased incidence of menstrual complications, problems with certain methods of contraception, and evidence of reduced fertility. In addition, delivery should almost always be by cesarean section under general anesthesia. There are, however, some unique complications in specific chondrodystrophies in the present study group. Women with achondroplasia have premature menopause and an increased incidence of leiomyomata; women with osteogenesis imperfecta have late menarche; and women with pseudoachondroplasia and cartilage hair hypoplasia have long menstrual cycles.

**Database:** Medline
38. Achondroplasia and pregnancy.
Author(s): Roopnarinesingh, S; Naraynsingh, V; Woo, J
Source: The West Indian medical journal; Jun 1983; vol. 32 (no. 2); p. 112-113
Publication Date: Jun 1983
Publication Type(s): Case Reports Journal Article
PubMedID: 6613102
Database: Medline

Author(s): Lattanzi, D R; Harger, J H
Source: The Journal of reproductive medicine; Jun 1982; vol. 27 (no. 6); p. 363-366
Publication Date: Jun 1982
Publication Type(s): Case Reports Journal Article
PubMedID: 6889650
Abstract: Five cases and a review of the literature concerning achondroplasia and pregnancy are described. Cephalopelvic disproportion secondary to marked pelvic contracture is the most consistent feature. Preeclampsia is more frequent but usually did not become a major problem regarding obstetric management. Polyhydramnios may indicate a poor prognosis for the fetus. Dyspnea on exertion and at rest is quite variable and may be related to associated vertebral column deformities. Fetal wastage and neonatal death are increased.
Database: Medline

40. The obstetric significance of short stature.
Author(s): Camilleri, A P
Source: European journal of obstetrics, gynecology, and reproductive biology; Dec 1981; vol. 12 (no. 6); p. 347-356
Publication Date: Dec 1981
Publication Type(s): Journal Article
PubMedID: 7333412
Abstract: A study is made of the obstetric performance of 2791 Maltese women in relation to their stature, the height of almost two-thirds of these mothers was 5 ft. or less. It is confirmed that today the shorter woman continues to carry a higher risk of low birth-weight, cesarean section, low Apgar score, and a bad obstetric history. It should be remembered that whereas maternal height is an index of the woman's general health and nutritional status from her childhood, yet a major role is also played by genetic factors. The obstetric significance of a particular height should be related to the patient's own genetic background. Obstetric management in relation to maternal height entails different cut-off points for different populations.
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(Dwarfism OR Achondroplasia).ti 2884

Medline
(9 AND 20) 286

EMBASE
*DWARFISM/ 3729

EMBASE
("short stature syndrome" OR Dwarfism OR Achondroplasia).ti 3014

EMBASE
(22 OR 23) 5438

EMBASE
exp "PREGNANCY OUTCOME"/ 48365

EMBASE
exp "PREGNANCY COMPLICATION"/ 126577

EMBASE
(25 OR 26) 164045

EMBASE
(24 AND 27) 31

EMBASE
*ACHONDROPLASIA/ 1661

EMBASE
(27 AND 29) 0

EMBASE
exp ACHONDROPLASIA/ 2824

EMBASE
exp DWARFISM/ 6047

EMBASE
(31 OR 32) 8453

EMBASE
(27 AND 33) 82

EMBASE
exp "LABOR COMPLICATION"/ 175656

EMBASE
(33 AND 35) 75

EMBASE
""SHORT STATURE"/ 4246

EMBASE
(27 AND 37) 0

EMBASE
(35 AND 37) 31
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