

# Letters to the Editor

## Effect of maternal age on fetal growth: A regional perspective.

Sir,

Extremes of maternal age have shown to be associated with an increased incidence of low birth weight, in previous regional studies.<sup>1,2</sup> Culturally, in the Arab world, women tend to get married early and have children at a younger age. Studies on the effect of this practice on fetal growth are scanty. The aim of this study was to look at the effect of maternal age on fetal growth, as measured by the birth weight and ponderal index, on a regional level in an Arabian community. The study was carried out at Sultan Qaboos University Hospital, Oman. All term neonates born over a period of 2 months (November 1, 1997 to December 31, 1997), were included in the study. Neonates born at gestational age less than 37 weeks and those transferred directly from the labor room to Neonatal Intensive Care Unit were excluded from the study. Maternal information was collected from maternal medical charts. The age of the mother at the time of admission prior to delivery was noted in data collection sheets. The weight and length of the babies were noted from the charts in the postnatal unit. Nurses took neonatal weight and length by using the standard scale. The ponderal index was calculated by using the formula, as described earlier.<sup>3-5</sup>

$$\text{Ponderal Index (g/cm}^3\text{)} = \text{Weight (gm)}/\text{length (cm)}^3$$

According to the ages, mothers were divided into 4 groups. Group I consisted of mothers aged 20 years or less. Group II consisted of mothers who aged between 21-25 years, group III between 26-30 years and group IV, 31 years or greater. A total of 96 term neonates were studied with respect to their birth weight, ponderal index and maternal age. Out

of 96 neonates, 4 (4%) were born to the Group I, 29 (30%) to group II, 29 (30%) to group III and 34 (45%) to group IV.

The mean maternal age of group I was noted to be 19.8 years with a mean birth weight of babies born to the same group of 3230 grams, and mean ponderal index of 2.20 g/cm<sup>3</sup>. The mean maternal age of group II was noted to be 23.5 years with mean birth weight of 3075 grams and mean ponderal index of 2.27 g/cm<sup>3</sup>. In group III the mean maternal age was noted to be 27.1 years with corresponding mean birth weight of 3036 grams and mean ponderal index of 2.31 g/cm<sup>3</sup>. The mean maternal age for group IV was noted to be 33.4 years with mean birth weight of 3219 grams and mean ponderal index of 2.37 g/cm<sup>3</sup> (see Table 1).

The study showed that fetal growth, as measured by the birth weight and ponderal index, was not affected by the maternal age. Our findings were against the previous reports. Dollberg et al<sup>1</sup> in their study on the Israeli population, have shown the increased incidence of low birth weight infants in older mothers (age 35 years). Similarly Jaya et al<sup>2</sup> in their study on the Indian population have reported high prevalence of low birth weight infants among younger women (age 15-19 years). We used ponderal index (PI), in addition to birth weight, as a measure of fetal growth, as PI has been shown earlier to be a good measure of fetal growth.<sup>3-5</sup> We noted normal ponderal indices in all neonates irrespective of the maternal age, which further favors that maternal age has no effect on fetal growth. Many factors can affect fetal growth in utero such as maternal nutrition, health during pregnancy and complications of pregnancy.<sup>6,7</sup> In our study, we did not employ controls for all such variables. Also, the population size was small and only from one center. A larger multi-center study will be needed to confirm our preliminary findings.

**Table 1** - Summary of the results.

Total Patients (n = 96)	n (%)	Maternal Age (Years)	Ponderal Index* (grams/cm <sup>3</sup> )	Birth Weight* (grams)
Group I (Age 20 yrs or less)	4 (4)	19.8	2.20	3230
Group II (Age 21-25 years)	29 (30)	23.5	2.27	3075
Group III (Age 26-30 years)	29 (30)	27.1	2.31	3036
Group IV (Age 30 years or above)	34 (35)	33.4	2.37	3219
All Cases	96	25.95	2.28	3140
	*	=	results expressed in mean	
	n	=	number of patients	
	%	=	percentage of patients	

In summary, we concluded that maternal age has no effect on fetal growth, as measured by the birth weight and ponderal index, amongst the Omani population. Regional variations have to be taken into account when evaluating the effects of different maternal factors on fetal growth.

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### References

1. Dollberg S, Seidman DS, Armon Y, Stevenson DK, Gale R. Adverse perinatal outcome in the older primipara. *J Perinatol* 1996; 16: 93-97.
2. Jaya DS, Kumar NS, Bai LS. Anthropometric indices, cord length and placental weight in newborns. *Indian Pediatr* 1995; 32: 1183-1188.
3. Colley NV, Tremble JM, Hensol GL, Cole TJ. Head circumference/abdominal circumference ratio, ponderal index and fetal malnutrition: should head circumference/abdominal circumference ratio be abandoned? *Br J Obstet Gynaecol* 1991; 98: 524-527.
4. Robertson NR. *Textbook of Neonatology*. 2nd ed. London (UK): Longman Group UK Limited; 1992. p. 320.
5. Khoury MJ, Berg CG, Calle EE. The ponderal index in term newborn siblings. *Am J Epidemiol* 1990; 132: 576-583.
6. Miller HC, Hassanein K. Fetal malnutrition in white newborn infants: maternal factors. *Pediatrics* 1973; 52: 504-512.
7. Thame M, Wilks RJ, MacFarlane AN, Bennet FI, Forrester TE. Relationship between maternal nutritional status and infants weight and body proportions at birth. *Eur J Clin Nutr* 1997; 51: 134-138.

Ovarian hyperstimulation syndrome and deep vein thrombosis.

Sir,

Thrombo-embolic disease is a recognized complication of ovarian hyperstimulation syndrome (OHSS).<sup>1</sup> Although rare, in a warm environment such as Saudi Arabia, the risks of thromboembolism in OHSS patients might be higher because of dehydration. We present the case of a patient who

developed deep vein thrombosis following ovarian hyperstimulation syndrome, which might have been prevented if the OHSS was managed aggressively. It is recommended that particular attention be paid to prophylactic increase in fluid intake using isotonic solutions and high protein fluids such as skimmed milk when treating patients with OHSS, all of which have a place in preventing dehydration and therefore thromboembolism.

A 37-year old infertile patient with polycystic ovary disease (PCO) was commenced on daily injections of human menopausal gonadotrophin (HMG) with regular vaginal ultrasound monitoring of follicular growth. The initial dose of 75 I.U daily was increased after 5 days to 150 I.U daily when there was no ovarian response as seen on ultrasound. On day 17, 10,000 units of human chorionic gonadotrophin (HCG) was given to trigger follicular rupture. Three weeks later, she complained of lower abdominal pain and pregnancy test was positive. The abdomen was distended with slight tenderness in the suprapubic area. No ascites was demonstrable clinically. Ultrasound scan showed an intrauterine gestational sac with some fluid in the pouch of Douglas. The ovaries were enlarged (right ovary 10 cm, left ovary 12 cm). She was admitted for treatment of a moderate degree of OHSS while blood was taken for complete blood count, kidney and liver function tests. The results were within normal limits. She was discharged home after 5 days of conservative treatment with a one week appointment at the out-patient clinic where she complained of pain in the left leg and difficulty in walking for 3 days. The abdomen was slightly tender and a mass arising from the pelvis was palpable to the size of 16 weeks pregnancy. There was edema of the left thigh and leg with positive Homan's sign. The right leg was normal. Ultrasound scan showed 3 intrauterine gestational sacs with fetal poles and fetal heart activity. The ovaries were about 10 cm and 12 cm size. A Doppler ultrasound revealed the presence of a clot in the left femoral vein. She was treated with IV heparin (36,000 units daily) for 7 days followed by subcutaneous heparin 7,500 units every 12 hours. She was subsequently discharged home but she later aborted the fetuses at 19 weeks gestation.

The thromboembolic phenomenon is an extremely rare effect of OHSS. While the cause of thromboembolism in patients with ovarian hyperstimulation is still ill understood, estrogen and hemoconcentration are well known risk factors in thromboembolic disease.<sup>2</sup> Kodama et al<sup>3</sup> pointed out that marked leukocytosis and higher levels of activation of the fibrinolytic system may be the signs of imminent thromboembolism in OHSS patients. Although our patient was a high risk for ovarian hyperstimulation syndrome because of PCO and her

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advanced age, she did not have any other predisposing factors for thromboembolism apart from pregnancy, but the pressure of the enlarged ovaries on the iliac veins as a result of OHSS, and also immobilization may have contributed to the phenomenon. Our patient was not dehydrated when she was seen at the emergency room, this does not mean that she was not dehydrated a few days before. The warm climatic conditions of Saudi Arabia, together with the reduced fluid intake here in general, will result in dehydration and may precipitate thrombosis. Fluid replacement with isotonic solution possibly via the intravenous route, together with high protein fluids are the cornerstones in preventing deep vein thrombosis amongst patients with ovarian hyperstimulation syndrome and should be instituted.

Deep vein thrombosis associated with ovarian hyperstimulation syndrome is rare and probably due mainly to dehydration in our environment and also to venous compression by the enlarged ovaries and ascites, together with immobilization and a transient change in coagulation.

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## References

1. Kaaja R, Sieberg R, Titinen A, Koskimies A. Severe ovarian hyperstimulation syndrome and deep venous thrombosis. *Lancet* 1989; 28: 1043.
2. Vessy MP. Female hormones and vascular disease. *J Fam Plan Suppl* 1980; 6: 1-12.
3. Kodoma H, Fukuda J, Kaurve M, Matsui T, Shimizu Y, Tanaka T. Characteristics of blood hemostatic markers in patient with ovarian hyperstimulation syndrome who actually developed thromboembolism. *Fertil Steril* 1995; 64: 1207-1209.

## Public knowledge, attitude and practice towards antibiotics use in Riyadh City

Sir,

Hundreds of antibiotics are manufactured and introduced to the markets every day. Unfortunately these medications are sometimes used inappropriately.<sup>1</sup> This misuse can be due to hospitals or primary care physicians prescribing unnecessary drugs, at an inappropriate time or in an incorrect dose, frequency or duration. Here in the Kingdom of Saudi Arabia, in spite of the rapid modernization and expansion of the health services, it shares the same problem of prescribing as other countries do.<sup>2,3</sup> This study was conducted to assess: 1) Antibiotic misuse by the community. 2) Opinion of the population about the indications of antibiotics usage and. 3) Their compliance with the prescribed antibiotics. It differs from the previous studies in that while the other studies were conducted among doctors and pharmacists, this study is community based. A randomly selected sample of 100 residents in Riyadh City were interviewed regarding their knowledge, attitude and practice towards antibiotics. Only 80 of them had heard about antibiotics. Sixteen percent of them have used antibiotics without a doctor's consultation. Fever, common cold and difficult swallowing, in order of frequency, are the most common indications for antibiotic use as taken from the participants (Table 1).

**Table 1** - Distribution of indications of antibiotics use according to belief of the participants.

The indication	n (%) <sup>*</sup>
Fever	24 (30)
Common cold	22 (28)
Difficulty swallowing	20 (25)
Cough	8 (10)
Others <sup>**</sup>	30 (38)
I do not know	12 (15)

<sup>\*</sup> The total percentage is more than 100 because some participants gave more than a single indication.  
<sup>\*\*</sup> Such as headache, vomiting, diarrhoea and abdominal pain.

Instructions were given to patients by their treating physicians with regards to antibiotic usage and how they followed the instructions given was assessed. It was found that only 83% of the interviewed subjects followed the instructions strictly, while 4% never or rarely followed them, and the remaining subjects said sometimes.

Our study revealed that unfortunately antibiotics can be bought over the counter without a written prescription, people consider many ill defined symptoms as indications for antibiotic use, and non compliance with doctor's advice is high. We recommend the following: 1) There is a need to study the outcome of self-administration of antibiotics in more details. 2) Legislation is required to control the sale of antibiotics over the counter. 3) Improvement of public health education about the role of drugs in health care to avoid use of antibiotics without a doctor's consultation. 4) Health education regarding compliance with the physician's instructions.

**Acknowledgment.** At the end, I would like to thank Professor S. Al-Shammery and Dr M. Al-Sekait from College of Medicine, King Saud University for their valuable advises and support during preparing and conducting this study.

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### *References*

1. Mandle GL, Douglas RG, Bennett JE. Principles and practice of infectious diseases. 3rd edition. USA; Churchill Livingstone 1985; 427-433.
2. Bawazir SA. Prescribing patterns of ambulatory care physicians in Saudi Arabia. *Annals of Saudi Medicine* 1993; 13: 172-177.
3. Saddique A. Rationalization of antibiotics prescribing. *Health Services J of the Eastern Mediterranean Region*,