Incidence of Instrumental Deliveries in Primigravidae of Three Different Ethnic Groups

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SUMMARY: In a retrospective survey of 2257 Caucasian, Chinese and Gurkha primigravidae who delivered at the British Military Hospital between the years 1978 and 1981, the incidence of instrumental deliveries was compared for each ethnic group. There was no statistical significant variation in the incidence of instrumental deliveries in women of the three different ethnic groups considered.

This finding would seem to indicate that the difference in incidence of instrumental deliveries found by other authors were based on different approaches to obstetrics problems and medical trends rather than a real difference in obstetric performance of different races.

Introduction

The Obstetric Unit at the British Military Hospital in Hong Kong cares for a population consisting of Service wives and local Government Entitled Patients. This involves the antenatal, intranatal and postnatal care of women of Caucasian, Chinese and Nepali (Gurkha) stock. This, therefore represents in our view, a unique opportunity to study the obstetric performance of these three ethnic groups in a controlled environment.

Method

The study population consists of 2257 primigravidae delivered in the Unit between the years 1978 and 1981 inclusive. The information was obtained retrospectively from existing records.

These included details of age, birth weight, ethnic group, nature of delivery together with a note on the indication for any instrumental deliveries. Ventouse and Forceps deliveries were considered together since, during the period in question, the actual numbers of each method of delivery varied with the preference and experience of the operator.

The percentage of instrumental deliveries and Caesarean Sections was then calculated for each racial group and the Chi-Squared test was then performed to determine the significance of any variation between the racial groups.

Results

The results of the survey can be seen in Table 1. A total of 2257 women were delivered and the relative numbers for each ethnic group are given together with the mean age, birth weight and the relative

percentages of women who underwent either Forceps and Ventouse delivery or Lower Segment Caesarean Section.

Tables 2 and 3 summarize the relative indications for each instrumental procedure.

A null hypothesis was assumed that there is no difference in the incidence of instrumental deliveries amongst primigravidae of the three racial groups studied. The Chi-Squared test was applied and revealed the 2.6% difference in Forceps and Ventouse deliveries between Gurkha and Chinese women not to be significant ($p > 0.5$).

Discussion

The widely differing incidence of instrumental deliveries found by other authors comparing hospital deliveries in countries as far apart as the USA (Chicago 66%) and Malaysia (Kuala Lumpur 3.5%) has not been confirmed by the results of our survey. This reflects, in our opinion, a geographical difference in medical practice rather than a difference in obstetric performance.

In our Unit the decision to carry out an instrumental delivery is made by the same Medical Staff using the same criteria on women belonging to different ethnic stock.

We found no statistical significant difference in any of the percentages compared. Slight differences between Gurkhas and Caucasian and Chinese may be a reflection of the difference in mean age.

As one would expect Caucasian birthweight is higher than in the Asian groups, whilst the incidence of instrumental deliveries is not significantly higher. This is to be expected bearing in mind the size of the Caucasian pelvis.

Table 1
Number of deliveries for each ethnic group, mean age, mean birth weight and number of instrumental deliveries carried out with relative percentages.

	Deliveries	Mean Age	Mean Birth Weight/g	Forceps and Ventouse Deliveries	Caesarean Sections
Caucasian	462	25.0	3353	62 (13.4%)	28 (6.1%)
Chinese	1171	24.8	3253	160 (13.7%)	71 (6.1%)
Gurkha	624	21.2	3095	69 (11.1%)	32 (5.1%)

Table 2

Indications for Ventouse and Forceps deliveries in Primigravidae of the three ethnic groups.

	Caucasian	Chinese	Gurkha
Pre-Eclampsia	1	2	5
Rel CPD	0	1	3
Fetal Distress	5	13	6
Poor Maternal Effort	48	112	47
POP and Tr Arrest	4	13	3
Pre-Term Infant	1	0	1
Medical	0	5	0
Non Stated	3	14	4
TOTAL	62	160	69

Abbr: Rel CPD—Relative Cephalo-Pelvic Disproportion.
POP and Tr Arrest—Persistent Occipito-Posterior position and Transverse Arrest.

Table 3

Indication for Lower Segment Caesarean Sections in Primigravidae of the three ethnic groups.

	Caucasian	Chinese	Gurkha
Malpresentation	4	10	5
Placenta Praevia	2	7	2
Pre-Eclampsia	2	4	2
CPD	3	19	12
Fetal Distress	3	12	7
Cord Prolapse	2	1	2
Delay 1st Stage	5	14	2
Previous Myomectomy	0	1	0
Placental Insufficiency	3	1	0
Failed Ventouse	1	1	0
Non Stated	3	1	0
TOTAL	28	71	32

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Case Reports

'Floor Layers Foot' — An Occupational Bursa

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SUMMARY: A case of an occupational bursa of the forefoot resulting from prolonged pressure as a floor-layer is described. It is compared with bursae occurring in similar occupations.

A 24 year old man presented with a large cystic swelling on the dorsolateral aspect of his right foot that had been present for some seven months (Fig. 1). This was considered to be an adventitious bursa which had arisen as a result of his occupation as a floor-layer.

At operation on 3 February 1977 the forefoot was explored through a transverse incision over the swelling and a thick walled bursa was found between the superficial and deep fibres of the extensor retinaculum. The bursa contained clear blood-stained serous fluid and was excised. Macroscopically the specimen measured 6 x 5 x 4 cm and its wall was 0.7 cm thick. Histological examination of the specimen showed it to be a cyst with a fibro-collagenous wall and a smooth non-synovial lining. Reactive vascularisation was also seen around the

wall and the histological picture is consistent with a traumatic bursitis.

Discussion

Bursae are of two distinct types. There are those present in the normal anatomy and adventitious bursae such as the case described which develop in response to repeated friction or prolonged pressure.

Two bursae of the foot are commonly described. These are the anatomical retro-calcaneum bursa and the adventitious retro-achilles bursa. The latter has been described associated with ill-fitting footwear and also in miners due to their kneeling position. Many reports have been made about occupational bursae in miners particularly those involving the knees¹⁻³. Hunt (1974) also describes an adventitious bursa in miners over the tarsal bones which is very similar to the present case but somewhat more laterally placed¹.

Fig. 1 The Bursa

Fig. 2 The normal working posture

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Floor-layers knees and ankles are subjected to very similar stresses as kneeling miners so it is reasonable to expect similar lower limb bursae to occur in both occupations. Mikheev (1968) described bursitis in the knees of parquet floor layers on Moscow building sites, however, no mention is made of any ankle or foot bursae⁴. Fig. 2 illustrates the usual working posture of the case described and shows how this area of the foot makes constant contact with the floor on which he is working.

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'THE SCIENTIFIC BASIS OF THE CARE OF THE CRITICALLY ILL'

An international meeting will be held in Manchester, 5-8 September 1984, to honour the retirement of Professor H B Stoner, MD, FRCPATH, FRCS, as Director of the Medical Research Council Trauma Unit.

Topics for discussion include: The local response to injury, metabolic changes after injury, the nutrition of the critically ill, role of the central

nervous system in the response to injury, the pathogenesis of complications and the modification of the response to injury.

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