Introduction

Obstructed labour is one of the major causes of maternal as well as perinatal mortality and morbidity in India. It also causes significant maternal morbidity in the short term (notably infection) and long term (notably obstetric fistulas). It has been defined as ‘Failure of descent of the foetus in the birth canal for mechanical reasons in spite of good uterine contractions.3 One of the major causes for this is severely contracted pelvis often a result of childhood malnutrition. Osteomalacic pelvis is a type of contracted pelvis with metabolic aetiology. The various factors responsible for osteomalacic pelvis are inadequate dietary calcium and vitamin 'D', closely spaced pregnancies and prolonged lactation, diet of unleavened wheat flour and Purdah system. Pakistan reported 2% prevalence of osteomalacia in all obstetric patients from 1978-1985, of which 37% (22) exhibited CPD, nearly half of which (46%) were due to osteomalacia.6 The course of the disease is gradual with initial symptoms of backache, pain in limbs, muscular weakness, nervousness and tetany. During subsequent pregnancy symptoms return with increased severity giving rise to forward jutting of symphysis pubis with reduced conjugate diameter. Sinking of trunk leads to short stature and narrowing of bony canal leads to contracted pelvis and ultimately obstructed labour. This case is presented here to discuss the potential role of nutrition and calcium supplementation to prevent osteomalacia.

Case Report

A 35 year old, illiterate, muslim, housewife of low socioeconomic status G5P3L3A1 with full term pregnancy presented with chief complaints of leaking per vagina since 3 days, pain in abdomen since 2 days and decreased perception of foetal movements of 2 days duration. Details of obstetric history were as follows. She had 3 full term home deliveries and age of children was 12, 10 and 8 years respectively. She had spontaneous abortion of 8 weeks duration 5 years back. No h/o major medical/surgical illness in the past. General Examination- Poorly built and nourished. Ht-134 cm with Kyphotic spine. Conscious, oriented with No pallor/icterus. A febrile Pulse-100/m, low volume BP- 100/60 mmHg RS- B/L rhonchi CVS-WNL P/A-Uterus 34-36 wks, Uterine activity 1/10/10, Cephalic presentation, longitudinal lie with absent foetal heart. Suprapubic bulge present. P/V examination-Cervix fully dilated and effaced. Grade 3 caput present. Extreme moulding felt, skull bones soft. Station -2 to -1 Sidewalls convergent, subpubic

Archana Bhosale*, Michelle Fonseca**, YS Nandanwar***

Obstructed Labour Due to Contracted Pelvis in a Grand Multiparous Woman

Abstract

Contracted pelvis though a rare entity in industrialized world, is still prevalent in some developing countries. Obstructed labour is the most common complication associated with contracted pelvis which leads to increased incidence of perinatal and maternal morbidity as well as mortality. This case is reported here as these women had three previous normal deliveries and had obstructed labour in her 4th delivery with development of Bande's ring which is found very rarely now-a-days.
arch narrow. Liquor not demonstrable but foul smelling discharge was present. Clinical Impression-
Severely contracted pelvis with obstructed labour with IUFD. Emergency Caesarean Section done in
view of G5P3L3A1 with full term pregnancy with contracted pelvis leading to obstructed labour and
chorioamnionitis. Intraoperative finding revealed presence of Bandl’s ring (Fig. 1). A transverse incision
was taken over the ring (Fig. 2). Vertex was impacted to such an extent that baby could not be delivered by
vertex. Ultimately baby delivered by breech after a T shaped incision and it was macerated still birth. Pus
pockets were found in the uterus (Fig. 3) so obstetric hysterectomy was done. Postoperative course was
uneventful. She received I.V. antibiotics for 5 days and then shifted to oral antibiotics. Urinary catheter
kept for 7 days. Haematinics and high protein diet was started. Sutures removed on day 10. X-ray pelvis
was suggestive of triradiate. Chest X-ray was s/o bronchiectatic changes. S. Calcium-6.2 mg%. S.
Phosphate-4 mg%. She was treated with Inj. Biocalcin
50 IU alternate day for 15 days. After 15 day’s oral
calcium and vit. D supplementation was started. She
was discharged on day 16.

Discussion
The most common cause of obstructed labour is disproportion between the foetus
head and the mother’s pelvis.1,2,3 Although
maternal height can predict the risk of
obstructed labour, it is also an index of a
woman’s general health and nutritional status
from her childhood, in which genetic factors
play a major role. The various cut off points
have been identified in different studies as
being associated with or predicting an
increased risk of obstructed labour. For
example, associations have been identified for
heights ≤ 150-153 cm in Ghana, < 155 cm in
Burkina Faso, < 156 cm in Denmark, ≤ 150
cm in Kenya, < 146 cm in Tanzania, and <
140 cm in India.1 Even after growth in height
has stopped, there is a continuous need to
lay down calcium in bone to maintain bone
structure and therefore, the shape of the
pelvis. Calcium deficiency affects the bony
pelvis. Osteomalacia is seldom seen in first
pregnancies unless rickets in childhood has
been followed by persistent vitamin D
deficiency in puberty.1 Osteomalacia can
develop after several pregnancies and
worsens without treatment. Our pt.was nutritionally deprived woman in whom prolonged lactation and inadequately spaced pregnancies didn't allow for replenishment of calcium stores. She had anticipated home delivery in the present pregnancy and was in labour for 2 days. Only on day 3 she attended hospital due to non progress. Bandl’s ring found in our pt. is rarely seen nowadays may cause traumatic cranial deformity and subsequent cerebral palsy. The incidence of obstructed labour is difficult to estimate. Nevertheless, reported incidences vary from 1-2/100 deliveries in Nigeria to 3/100 deliveries in India. Srinagar has reported 2.2% incidence of obstructed labour out of which 52% were multipara, 59% contracted pelvis and Bandl’s ring was present in 23%of cases. Though our pt. hadn’t rupture uterus obstructed labour is the leading cause of uterine rupture worldwide. A recent 7 year review carried out in Ghana found that rupture was due to prolonged labour in around one-third of all cases. Similar figures have been reported from other regions (e.g. in Delhi 27% of ruptures in a 5 year period) due to obstructed labour. A major cause of obstructed labour is foetomaternal disproportion and intergenerational cycles of chronic undernutrition, which may include calcium and vit. D deficiency. The most effective way to reduce the incidence of obstructed labour is, therefore, to adopt measures to improve the health and nutrition of children during their rapid periods of growth, i.e. infancy, early childhood, and adolescence. Other measures like improving women literacy, strengthening of utilization of maternal health services, meticulous use of partograph, mandatory hospital delivery and skilled birth attendants will help in timely detection of the condition and thereby reduce maternal as well perinatal morbidity and mortality.

References
1. Justin C Konje, Oladapo A Ladi. Nutrition and obstructed labour
4. Pathologic Uterine Ring Associated with Fetal Head Trauma and Subsequent Cerebral Palsy Michele R Lauria, MD1, Joan C Barthold, MD1, Robert A Zimmerman, MD2, Mark A Turrentine, MD British Medical Bulletin 2003; 67 : 191-204.

ACUPUNCTURE FOR BACKS
The UK’s National Institute for Health and Clinical Excellence (NICE) has given its seal of approval to the use of acupuncture, exercise classes, and massage as part of the routine treatment of patients with persistent non-specific lower back pain. NICE recommends the use of such therapies over the current practices of radiographs and spinal injections.

The Lancet, This week in Medicine, 2009; 373.