

SHOULDER DYSTOCIA - A REVIEW AT THE DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY, ALEXANDRA HOSPITAL, SINGAPORE

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ABSTRACT

Shoulder dystocia is associated with a high incidence of perinatal morbidity, mortality and maternal morbidity. The present study was undertaken to review all the cases of shoulder dystocia at the Department of Obstetrics and Gynaecology, Alexandra Hospital during a 11-year period from January 1978 until December 1988. The incidence of shoulder dystocia in this series was 1:1739 deliveries or 0.05%. The constant awareness of the possibility of rapid development of shoulder dystocia with its potentially dangerous consequences should always be kept in mind. Shoulder dystocia drills should be held regularly in the resident training programme.

Keywords: Shoulder dystocia, Erb's palsy, birth asphyxia

SINGAPORE MED J 1990; NO 31: 30-32

INTRODUCTION

Shoulder dystocia is a serious complication for the foetus. It is not uncommon to see a larger term or post-term infant in the neonatal intensive care unit with complications of birth asphyxia and seizures, metabolic instability and brachial plexus injury due to traumatic delivery. The complications are as a result of shoulder girdle dystocia which could have been avoided in most cases if the attending obstetrician had a high index of suspicion that the complication might occur and carefully planned its prevention and management (1).

Most investigators would agree that shoulder dystocia had occurred when the usual and standard technique of downward traction of the foetal head failed to accomplish delivery. Anatomically and pathologically, the anterior shoulder has impacted in a narrow diameter, most often the antero-posterior diameter of the pelvis.

MATERIALS AND METHODS

All cases of shoulder dystocia that occurred from January 1978 until December 1988 at the Department of Obstetrics and Gynaecology, Alexandra Hospital were included in this study. During the above period there were 50,452 deliveries and 29 cases of shoulder dystocia. The incidence of shoulder dystocia in this series was 1:1739 deliveries or 0.05%. The reported incidence varies from 0.15% to 0.38% of all deliveries (2). Shoulder dystocia is defined as failure to deliver the shoulder when the usual and standard technique of downward traction of the foetal head fails to accomplish delivery.

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RESULTS

There were 15 cases (51.8%) of Malays, 10 cases (34.4%) of Chinese and 4 cases (13.8%) of Indians in this series. Malay patients appear to be more prone to shoulder dystocia in this study (Table I). Forty-eight percent of cases occurred in the age group between 26-30 years (Table II). Thirty-one percent occurred in Para 1 followed by 27.6% in Para 2 (Table III). 15 babies (51.7%) weighed more than 4000g which contributed significantly to shoulder dystocia (Table IV). Normal vaginal delivery occurred in 27 patients (93.1%) and only 2 patients (6.9%) required a forceps delivery (Table V).

Table I
DISTRIBUTION OF CASES ACCORDING TO ETHNIC GROUP

Ethnic Group	No	%
Malays	15	51.8
Chinese	10	34.4
Indians	4	13.8
Total	29	100.0

Table II
DISTRIBUTION OF CASES ACCORDING TO AGE GROUP

Age (Years)	No	%
21 - 25	6	20.7
26 - 30	14	48.2
31 - 35	6	20.7
36 - 40	2	6.9
41+	1	3.5
TOTAL	29	100.0

Table III
DISTRIBUTION OF CASES
ACCORDING TO PARITY

Parity	No	%
0	4	13.8
1	9	31.0
2	8	27.6
3	5	17.2
4	3	10.4
Total	29	100.0

Table IV
DISTRIBUTION OF CASES ACCORDING TO
INFANT WEIGHTS

Infant weight (g)	No	%
Less than 3500	3	10.4
3501 - 4000	11	37.9
4001 - 4500	9	31.0
4501+	6	20.7
Total	29	100.0

Table V
MODE OF DELIVERY

Mode of Delivery	No	%
Normal Vaginal Delivery	27	93.1
Forceps	2	6.9
Total	29	100.0

Table VI
MATERNAL COMPLICATIONS AND RISK FACTORS

Complications & Risk Factors	No	% of 29
Postpartum Haemorrhage	5	17.2
Cervical Tear	2	6.9
Diabetes Mellitus	5	17.2

Table VII
FOETAL COMPLICATIONS

Foetal Complications	No	%
Congested Face	10	40
Moderate to severe Birth Asphyxia (Apgar 5 at 1 min)	10	40
Erb's Palsy	3	12
Perinatal Mortality Rate	2	8
TOTAL	25	100

MATERIAL COMPLICATIONS

Postpartum haemorrhage occurred in 5 patients (17.2%) and 2 patients (6.9%) had a cervical tear in this series. Maternal risk factors such as Diabetes Mellitus was present in 5 cases (17.2%) (Table VI). This may not reflect the true incidence of Diabetes Mellitus in this study because diabetic screening was not performed routinely during the period of this study.

FOETAL COMPLICATIONS

10 babies (40%) were born with severely congested face and all of them had moderate to severe asphyxia (Apgar less than 5 at 1 minute) at birth. Erb's palsy occurred in 3 cases (12%). There was one macerated stillbirth and one neonatal death in this series with a perinatal mortality of 8% (Table VII).

DISCUSSION

Shoulder dystocia, although it represents only 0.15% to 0.38% of all vaginal deliveries, is a bonafide obstetric emergency for it holds an inordinate perinatal and maternal morbidity in both motor and behavioural function (3-7). If the occurrence of severe shoulder dystocia resulting in foetal asphyxia and trauma could be accurately predicted, then a caesarean section would be indicated to prevent the poor outcome (8). The information is contradictory regarding whether shoulder dystocia can be prevented. In the present study, 15 patients (51.7%) who were at a greater risk of shoulder dystocia delivered babies weighing more than 4000g. Prolonged second stage resulting in assisted deliveries did not appear to play a major role in this study. Only 2 patients (6.7%) required a forceps delivery. It must be emphasized, however, as shown in this series that shoulder dystocia not infrequently arises subsequent to spontaneous delivery of the head after a rapid or uncomplicated labour.

If shoulder dystocia occurs, the obstetrician should have a well conceived approach directed towards disimpaction of the anterior shoulder. The most effective manoeuvre includes suprapubic pressure and rotation of the shoulders to an oblique diameter with downward traction of the foetal head. If this fails the Obstetrician should immediately proceed to deliver the posterior arm as follows:

The hand is inserted posteriorly in the vagina, along the curve of the sacrum. The right hand is used when the foetal back is towards the mother's right. The posterior arm of the foetus is identified. On occasion, when the obstetrician's fingers are in the antecubital fossa of the foetus, pressure will cause flexion of the arm, and the hand can be grasped as it crosses the chest. In practice it is usually easier simply to grasp the forearm, bringing it outside the vagina, thus delivering the posterior shoulder. At this point repeated suprapubic pressure or rotation of the anterior shoulder into the oblique plane of the outlet will deliver the shoulder.

If the foetal weight is estimated to be more than 4000g and especially if over 4500g, the Obstetrician must consider caesarean section in preference to a difficult forceps delivery followed by shoulder dystocia.

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