

SEVEN YEARS EXPERIENCE WITH VACUUM EXTRACTOR IN OBSTETRIC PRACTICE IN KASHMIR

by

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Introduction

The Vacuum extractor has established its place in obstetric practice to make operative obstetrics safer. The method is superior to forceps in the first stage of labour. Unlike forceps it does not occupy any extra space in vagina. The available space is used for the passage of the foetus. It promotes flexion and causes autorotation of the fetal head in occipito-posterior and deep transverse arrest by imitating the normal mechanism of labour.

In Kashmir, rupture uterus following caesarean section is a common cause of maternal and foetal wastage. The patients do not visit the hospital for antenatal care and subsequent deliveries. The communication barriers during winter play a part together with their ignorance and poverty. It requires a considerable thought and evaluation to keep the caesarean section at its lowest ebb. To evaluate the place of Ventouse in obstetric practice, we have been prompted to undertake this study.

This safe and inexpensive method can be learnt by Junior Doctors in a short

time before they are posted in district hospitals and far flung areas of the valley.

Out of 9,743 normal deliveries 1,501 Vacuum extractions were performed during 1968-75. Incidence ranged from 11.1% to 16.4%.

Discussion and Results

Majority of our services consisted of patients who had been bearing down uncontrollably (Exhaustion Expulsion Syndrome) because of prevailing customs, as a result landmarks on the scalp are obscured by caput succedaneum, vulva and vagina are markedly oedematous and lacerated due to repeated and rough vaginal examinations and attempted delivery by untrained midwives. Under these circumstances it became very difficult to determine precise position of head in the pelvis and vaginal examination gave feeling of head being jammed in pelvis. Besides, majority of these patients had associated anaemia, P.E.T., pyrexia and dehydration. In these cases application of forceps with or without rotation is not only difficult but hazardous as there is no room available for the same and certainly caesarean section would be still more disastrous. In such cases ventouse proved simple and a safe procedure even in

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the hands of junior staff with no added risk to mother.

During a period of 7 years (1968-75) the incidence of ventouse was 15.4%.

Indication for ventouse are shown in Table I. Prolonged 1st and 2nd stages of

was above the level of ischial spines. In 679 cases (45.2%) occiput was below the level of ischial spines. Here special mention is required about multiparae where pelvic assessment during labour gave an impression of a prominent sacral promon-

TABLE I
Indications

	No. of patients	Percentage
(A) 1. Prolonged 1st stage with foetal distress	248	16.5
2. Prolonged 2nd stage with foetal distress	610	40.6
3. Mild brim, mid cavity and outlet contraction	70	4.0
(B) 1. Malrotation with or without uterine contractions	238	15.1
2. Persistent occiputo posterior	191	12.7
3. Deep transverse arrest	97	6.4
(C) Maternal Complications:		
1. Maternal distress	12	0.7
2. Previous caesarean section	24	1.5
3. Toxaemia of pregnancy	26	1.0
4. Eclampsia	11	0.7
5. Accidental haemorrhage	14	0.9
6. Cardiopulmonary	10	0.6

labour with fetal distress accounted for 57.1%. Basu and Spratiey (1964) have shown this incidence to be 64.0% and Swami and Soni (1975) to be 51.8%. Malrotation constituted 34.2%. In our series incidence of prolonged 1st stage was 16.5%. In Fahmy's (1976) series it was 11.9%. Early intervention has been shown to reflect itself in reduced fetal mortality and maternal morbidity (Malmstrom and Janson, 1965) Primiparae were 717 cases (47.7%), 457 (30.3%) were multiparae and grandmultiparae were 327 (21.1%).

As far as station of the head in pelvic cavity was concerned, in 680 cases (54.3%) occiput was at the level of ischial spines and in 142 cases (9.5%) occiput

tory, which prevented the descent of head at the brim, but rest of the pelvis was normal and one got the feeling that if head could just be slipped over the promontory, vaginal delivery would be possible and to our surprise and satisfaction ventouse achieved the aim.

Position of the occiput was not made out in 155 cases (10.3%) mostly due to cranial moulding and/or caput succedaneum that obscured sutures and fontanelles. In 684 cases (45.1%) occiput was anterior, in 404 cases (26.8%) transverse, in 245 (16.3%) cases posterior and in 191 cases (12.0%) persistent occipito-posterior where the head was born with face to pubis. This shows that ventouse imposes no restraint on direction of rotation

as does forceps. Fahmy (1976) applied ventouse in first stage in 260 cases where in 27 cases position was obscured due to caput succedaneum that obscured sutures.

Hingorani and Bhalla (1963) found that rotation to anterior position occurred spontaneously when traction was made. In 5 cases where head was in oblique posterior position, in 3 cases rotation to anterior position occurred, in 1 face to pubis and in 1 it failed where manual rotation was done and forceps were applied. In 500 cases (33.2%) cervix was 9 cm dilated and in 127 cases (8.4%) it was 6-7 cm dilated. Many of the conditions that cause arrest in 1st stage of labour were managed by ventouse. These include hypotonic uterine inertia when oxytocin infusion had failed (Chalmers and Prakash, 1971). It can be used in incoordinate uterine action and in functional cervical dystocia (Hathout and Tannir, 1963).

Its use in 1st stage with fetal distress allows the obstetrician a greater attempt at delivery than would be possible with forceps which reflects better in fetal salvage (DeAzadado *et al*, 1960; Kelly and Mishell, 1977; Inman, 1969; Chalmer, 1971) but in such cases cervix should be half dilated and effaced and head in mid pelvic plane, since delivery in such cases is expected between 5-15 minutes. In addition it was used in pregnancies complicated by severe P.E.T. or eclampsia and

accidental haemorrhage Table I (Blunt, 1964).

There was no maternal death and maternal complication as shown in Table II. The incidence of soft tissue injury was 9.5%. The incidence of episiotomy was 46.7%. These were comparable both in incidence and severity with those that may occur with normal delivery (Thakur *et al*, 1974). The cervix is liable to injury especially in the first stage application either due to improper application or sudden slipping of the cup, or to prolonged and forcible traction. The incidence of cervical tear in our series was 1.6%, Spritzer (1962) reported a case of annular detachment of cervix. Such tears can be avoided by careful selection of cases and proper techniques and the operator should always satisfy himself as to the integrity of the cervix at the conclusion of the procedure.

No general anaesthesia was needed in these cases, thus a distinct advantage in type of cases, we encountered. Mostly perineal infiltration with 1% xylocaine was given. Only in a few cases pudendal block was used and multies were delivered without any anaesthesia because of lax vagina as cup was introduced without any discomfort to the patient.

Foetal injuries were varying from sclap abrasion to chignon formation as shown in Table III. 52.3% had no Chignon. In

TABLE II
Maternal Injuries

Type of Injury	No. of cases	Percentage
Cervical laceration	25	1.6
Vaginal laceration	35	2.3
Perineal tear	25	1.6
Complete perineal tear	7	0.4
Episiotomy	702	46.7

TABLE III

Time Taken for Chignon to Disappear

	No. of cases	Percentage
No Chignon	786	52.3
Chignon disappeared within 24 hours	227	15.1
Chignon disappeared between 24-48 hours	147	9.7
Chignon disappeared between 48-72 hours	114	7.4
Chignon disappeared between 72-96 hours	80	5.3
Chignon disappeared within 1 week	80	5.3
Chignon disappeared within 1-3 weeks	40	2.6
Chignon disappeared within 4-8 weeks	26	1.0

37.5% it disappeared between 24 hours to 96 hours. In 7.9% it took 1 to 3 weeks. Only in 1% it disappeared within 4-8 weeks and these were those cases where caput formation was already present and duration of application was long. These lesions responded to simple measures. Cephalhaematoma was noted in 9 of our cases. They had signs of cerebral irritation. Four recovered completely and 5 had neonatal death. In these cases vacuum was mainly applied to avoid caesarean and these were unsuitable cases for caesarean section. Incidence of cephalhaematoma in Fahmy (1976) series was 6.9%, scalp laceration in 3% and cerebral damage in 6%.

77.2% were born alive and cried immediately at birth. 10.3% were born asphyxiated. 5.3% were stillborn. These were the babies whose mothers were toxæmic or had I.U.D. or fetal distress or perinatal death as shown in Table III. Out of asphyxiated babies, 51.07% were revived immediately, 22.1% within 2-5 minutes, 14.1% within 5-7 minutes and

12.2% could not be revived for reasons already mentioned.

Total perinatal mortality was 80. The causes are given in Table V.

TABLE V
Total Perinatal Mortality 80

(A) Still births	
(a) Toxaemia	6
(b) Pre-eclampsia	13
(B) Dead in Utero	
(a) Cord prolapse	13
(b) Repeated stillbirths	11
(C) Foetal Distress	25
(D) Died within one week	
(a) Intra cranial damage	7
(b) Broncho pneumonia	4
(c) Severe jaundice	1

Summary

Fifteen hundred and one Vacuum extractions have been discussed with special reference to its ease of application and margin of safety in the hands of less experienced staff. Its advantages have been evaluated and have been found to be useful instrument in obstetric practice in developing countries like ours, where there is need to avoid caesarean section due to reasons already mentioned. In these countries young doctors must learn a great deal of abnormal obstetrics in a short time so that they can serve in remote areas. For this reason ventouse which accelerates both first and second stage of labour in selected cases seem to be more logical and practical than caesarean section and is less traumatic in the hands of less trained doctors. Experience with it including the ability to solve many obstetric problems can be gained in relatively short time (Hassim and Lucas, 1966), but its use in first stage of labour needs longer training because of proper selection of cases and techniques.

References

1. Basu, S. K. and Spratiey, T. S.: J. Indian Med. Assoc. 42: 149, 1964.
2. Blunt, A.: Australian and Newzeland J. Obst. & Gynec. 4: 156, 1964.
3. Chalmers, J. A. and Prakash, A.: J. Obst. & Gynec. Brit. C'wlth. 78: 554, 1971.
4. De Azevado, G., Areias, C. and Ribeiro, A. 1960. (Quoted by Reference 3).
5. Fahmy, K.: Australian and Newzeland J. Obst. & Gynec. 16: 167, 1976.
6. Hassim, A. M. and Lucas, C.: J. Obst. & Gynec. Brit. C'wlth. 73: 787, 1966.
7. Hathout, H. M. and Tannir, A. D.: J. Obst. & Gynec. Brit. C'wlth. 70: 101, 1953.
8. Hingorani, V. and Bhalla, S.: J. Indian Med. Assoc. 41: 238, 1963.
9. Inman, S. E.: J. Obst. & Gynec. Brit. C'wlth. 76: 356, 1969.
10. Kelly, J. V. and Mishell, D.: Surg. Gynec. & Obst. 114: 609, 1962.
11. Malmstrom, T. and Jansson, J.: Clin. Obst. & Gynec. 8: 893, 1965.
12. Spritzer, T. D.: Am. J. Obst. & Gynec. 83: 247, 1962.
13. Swami, N. and Soni, U. H.: J. Obst. & Gynec. India. 25: 604, 1975.
14. Thakur, S. S., Verma, U. and Samel, U. M.: J. Obst. & Gynec. India. 24: 576, 1974.