CLINICAL SIGNIFICANCE OF UNENGAGED FOETAL HEAD NEAR TERM IN PRIMIGRAVIDAS

by

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Introduction

It is generally taught that in primigravidas the foetal head gets engaged 2-3 weeks before the expected date of delivery. To cite a few such authors—Percival (1959) states that the "foetal head should have become well engaged by 36th weeks gestation in a primigravida".

Browne (1970) writes that "if in primigravidas foetal head remains unengaged till the 38th week, the reason for it should be sought.

Scattered studies have been done by different workers all over the world. They have come out with differing results. Morris *et al* (1960), Weeks Flynn (1975), Sharma and Soni (1978) and Ghosh and Chaudhri (1980) have found that in approximately 50-60% of primigravidas foetal head engaged between 38-40 weeks. Bhatt and Shiralli (1961) gave a high figure of engaged foetal head in labour at term i.e. 80.7% but Chogtu and Khanum (1977) found unengaged foetal head in 95% of Kashmiri primipara which is in complete contrast to the former.

This disparity of views led us to conduct a study on primigravidas and know our incidence of engagement of foetal head at term and also to find out some aspects of the significance of unengaged head at term.

Material and Methods

A retrospective study was conducted on 122 primigravidas who were of more than 38 weeks gestation and had vertex presentation.

Criteria for engagement were either only one pole of the foetal head or small portions of both poles felt per abdomen and on vaginal examination the lower most part of the vault lying at or below the level of the ischial spines.

Results

This study revealed that after 38 weeks, 38.5% of primis presented with engaged foetal head and in more than half i.e. 61.5% it was unengaged. As shown in Table I in the engaged group 10.7% engaged by end of 38 weeks, 29.8% by end of 39 weeks and 59.5% engaged at 40 weeks and above. So the maximum incidence of engagement was at 40 weeks and above.

Age did not have any significant relation to the engagement or non-engagement of foetal head at term in a primigravida.

Table II shows there is again no significant effect of the patients height on

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Accepted for publication on 2-6-82.

TABLE I

Percentage of Engaged and Unengaged Foetal Head at Various Periods of Gestation

Period of Gest.	No. of Pts.	38 weeks	39 weeks	40 weeks and above
Engaged	47	5 (10.7%)	14 (29.8%)	28 (59.5%)
Unengaged	75	15 (20.0%)	19 (25.3%)	41 (54.7%)
Total	122	20	33	69

TABLE II

Relationship With Height

Height in Feet	Total	Less than 5 feet	5 feet and above
Engaged	47	5 (10.6%)	42 (89.4%)
Unengaged	75	11 (14.6%)	64 (85.4%)
Total	122	16	106

engagement or unengagement of foetal head. Similarly Table III shows no significant relationship of marriage conception interval with the same.

Incidence of spontaneous onset of labour was slightly higher in the engaged group than in the unengaged as evident from Table IV. In engaged group only 1 patient needed induction of labour, whereas in unengaged group 4 patients had induced lagour for various reasons like premature rupture of membranes. Post dated pregnancy and PET. But applying Chi^2 value, no statistical significance was found (Chi^2 = less than 0.05).

The duration of labour was less than 12 hours in 32.5% patients with engaged foetal head, while in only 15.5% cases

TABLE III

Relationship With Marriage-Conception Interval

Age interval	Total	Less than 2 years	2-5 years	More than 5 years
Engaged	47	42 (89.4%)	2 (4.2%)	3 (6.4%)
Unengaged	75	68 (90.7%)	4 (5.3%)	3 (4%)
Total	122	110	6	6

TABLE IV

Relationship With Type of Onset of Labour (Three cases had elective caesarean section and are excluded here)

Type of onset of labour	Total	Spontaneous	Induced
Engaged	44	43 (97.7%)	1 (2.3%)
Unengaged	75	71 (94.7%)	4 (5.3%)
Total	119	114	5

with unengaged foetal head. There was not much difference between the two groups when labour lasted 12-24 hours or more than 24 hours. No statistical significance was found in these figure. Refer to Table V (Chi^2 = less than 0.05).

Relationship of the weight of the baby showed an increasing tendency for unengaged foetal head with higher birth weights (Table VII). But Chi^2 value was again less than 0.05 which shows the difference was statistically insignificant.

TABLE V
Relationship With Duration of Labour

Duration of labour	Total	Less than 12 hours	12-24 hours	More than 24 hours
Engaged	40	13 (32.5%)	17 (42.5%)	10 (25%)
Unengaged	58	9 (15.5%)	37 (63.8%)	12 (20.7%)
Total	98	22	54	22

Mode of delivery showed a higher incidence of Caesarean section in the unengaged group (22.6%) than in the engaged group (14.9%). Spontaneous vaginal delivery occurred in almost the same percentage of both groups. This too was found to be statistically insignificant (Chi^2 = less than 0.05). Refer to Table VI.

Discussion

The incidence of engaged head is variable in different studies though unexpectedly at or near term unengaged head is quite common.

Maximum incidence of engagement has

TABLE VI
Relationship With Mode of Delivery

Mode of Delivery		Spontaneous Vag. Delivery	Forceps	Caeserean Section
Engaged	47	28 (59.6%)	12 (25.5%)	7 (14.9%)
Unengaged	75	47 (62.8%)	11 (14.6%)	17 (22.6%)
Total	122	75	23	24

TABLE VII
Relationship With Birth Weight

Weight of Baby	Total	Less than 2500 gms	2500-3000 gms	More than 3000 gms
Engaged	47	13 (27.65%)	19 (40.42%)	15 (31.91%)
Unengaged	75	14 (18.66%)	29 (38.66%)	32 (42.66%)
Total	122	27	48	47

been found at 40 weeks by most workers as also in this study.

We have found that although the incidence of induced labour was less in engaged group and incidence of caesarean section was more in the unengaged group, when statistics formula of Chi^2 was applied difference was insignificant. This observation tallies with that of Ghosh and Chaudhri, Stipp (1969) and Morris *et al* (1960). Spontaneous vaginal delivery in unengaged group occurred in 62.7% in our study as against 59.6% in engaged group.

94.7% in the unengaged group went spontaneously into labour as against similar figure given by Stipp (1969) i.e. 95%.

The incidence of engaged foetal head at 38 weeks and above was found to be 38.5%. Patients who had unengaged foetal head at term had apparently more frequently induced labour and delivery by caesarean section. The duration of labour was longer and the weight of the baby was more often above 3 Kg. in this group. But all these factors had no statistical significance. Age and height of the patient and marriage conception interval had no significant correlation with non-engagement of foetal head. Few etiological factors for nonengagement could be defined which were hydramnios in 1 case, radiologically proved CPD in 5 cases and baby weight more than 3.5 Kg. in 7 cases. In rest of the patients no specific factor for nonengagement could be defined.

Conclusions

We have come to the conclusion that though we should first investigate the cause of unengaged foetal head at term in primigravidas, there need not be any apprehension as to the delivery and its outcome if no cause is found.

Acknowledgement

We are thankful to the Medical Superintendent of Dayanand Medical College & Hospital, Ludhiana for allowing us to use hospital records.

Comparative Tables

TABLE I

Incidence of engagement at 38th week and above

Morris *et al* (1960)	74%
Shirali and Bhatt (1961)	80.7%
Stipp (1969)	44.8%
Weeks and Flynn (1975)	56%
Chogtu and Khanun (1977)	5%
Ghosh and Chaudhri (1980)	48.1%
Present study	38.5%

TABLE II

Incidence of Induced Labour in Engaged and Unengaged Groups

	Engaged	Unengaged
Ghosh and Chaudhri (1980)	1.9%	14.7%
Present study	2.1%	5.3%

Cushing's Disease in Pregnancy—Dash et al. pp. 582-584

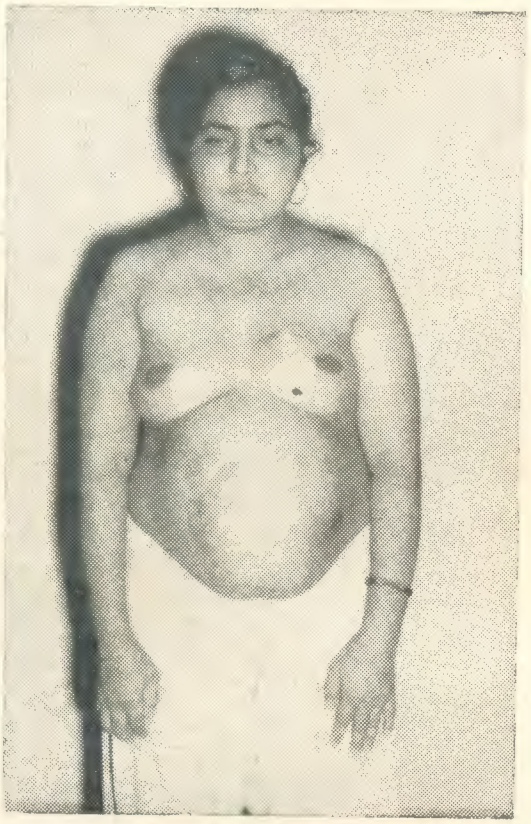

Fig. 1
Profile of Patient.

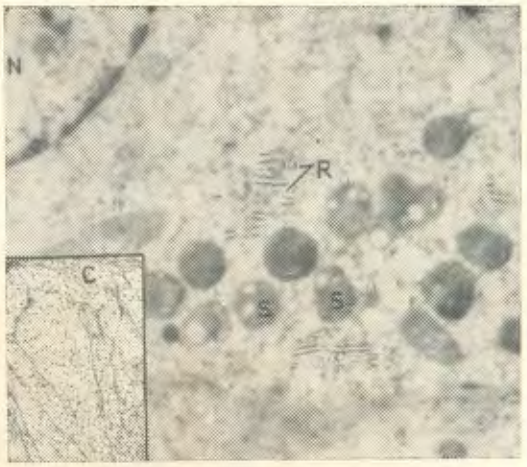

Fig. 2
Inset 'C' showing pale adrenal cortical cells forming club shaped cords. EM: showing electrondense vacuolated granules (s) and rough endoplasmic reticulum (R) of left adrenal gland.

Malignant Change in Benign Cystic Teratoma of Ovary—Chakraborti et al. pp. 751-752

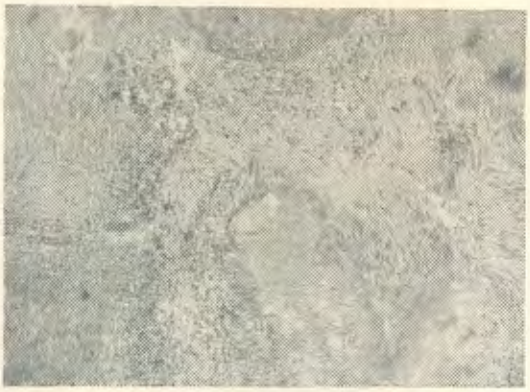

Fig. 1
Section shows cartilage cells and squamous cell carcinoma with infiltration.

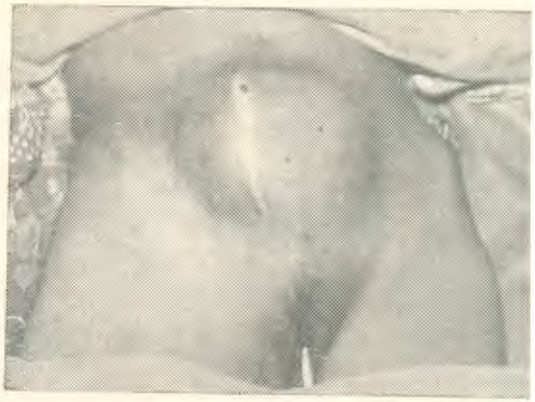

Fig. 2
Recurrence of pelvi-abdominal mass with acute retention of urine (Foley catheter in situ) Previous abdominal scar is very much stretched.