

POSTMATURITY VIS-A-VIS CORD AROUND THE NECK

by

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Introduction

We all come across cases who carry their pregnancies beyond their expected date of delivery. Then it has to be decided whether they are postmature or not. There are some fallacies in diagnosis but by applying some well known fixed standards and with experience it is rare that a mistake will be committed these days. Once it is taken that the pregnant woman is postmature then some intervention is required for the sake of the baby at least. In this study when the woman's period of gestation was 290 days (after being sure of the menstrual cycle and other clinical parametres) she was taken to be postmature.

It has been observed by the author that majority of cases with cord around the neck were delivered postmature. This cannot be an incidental finding as this phenomena was observed and looked for. This led to the present study to see cord around the neck could be a cause of postmaturity.

Material and Methods

There were 800 deliveries in this hospital over a period of 2 years, May 78 to April 80. There were 22 postmature deliveries in the series. The patients were considered postmature if they had

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crossed gestation period of 290 days after having ascertained by various methods that their dates were correct. Induction of labour with pitocin drip 2.5 units in 5% glucose at 40 drip per minute after sweeping of membranes was tried in all the cases. Fourteen cases were delivered by caesarean section. Ten of these developed foetal distress after induction and on section, cord was found around the neck 2-5 times. In 4 cases there were no uterine contractions after 2 inductions. X-ray showed evidence of maturity and hence caesarean section was done. Eight cases delivered vaginally after induction. No abnormality was detected in these cases. During this period 14 cases delivered vaginally with cord around the neck. In their cases labour was prolonged and patients were all multipara. All the babies needed resuscitation. But only 8 could be monitored as per the table because of unavoidable circumstances. But this gives a fair indication of the state of affairs with cord around the neck in most of the cases.

The study was carried out and tabulated in patients with cord around the neck specifically as follows:

Discussion

There is little doubt that postmaturity presents a problem in itself and has to be dealt with as an entity. The first problem is to make sure that the pt is postmature. If one goes by dates alone, one can land oneself into trouble with

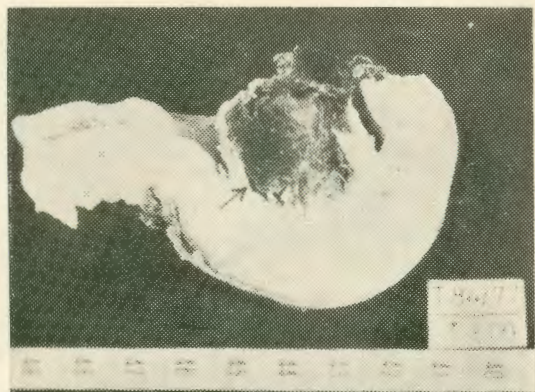


Fig. 1

Gross photograph showing leiomyosarcoma arising in a solitary leiomyoma. The sarcomatous change is denoted by areas of extensive haemorrhage and necrosis (arrow) on cut surface.

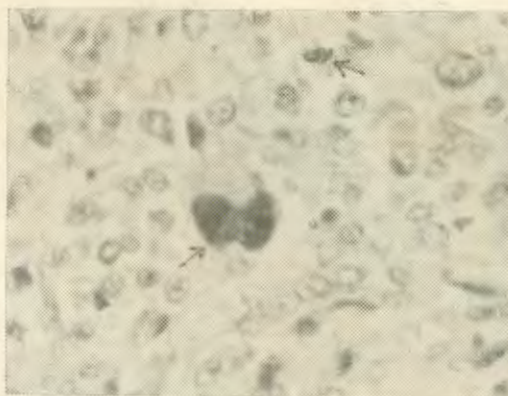


Fig. 2

Photomicrograph of poorly differentiated leiomyosarcoma—note the malignant characters of smooth muscle cells with abnormal mitotic figures (arrow) H & E x 400.

The Inhibitory Effect of Amniotic Fluid—Rohatgi and Basu pp. 300-303



Fig. 1

Comparative study of cultures of vaginal swabs obtained before and after rupture of membranes.

Left — Blood agar plate showing moderate growth of mixed bacteria before rupture of membranes.

Right — Blood agar plate showing poor growth of bacteria after rupture of membranes in the same patient.

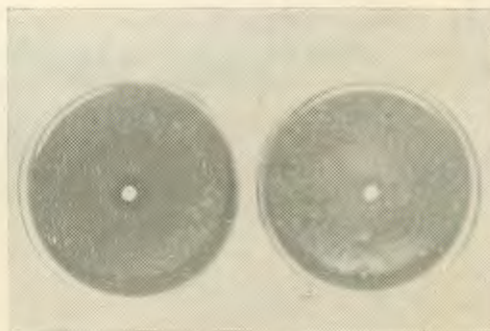


Fig. 2

Compared study of zones of inhibition produced by amniotic fluid (obtained at 37-38 weeks of gestation) and sterile water (control) using *Streptococcus viridans* as test organism on blood agar plates.

Left -- No zone of inhibition seen around disc impregnated with sterile water.

Right — Zone of inhibition (> 10 mm.) seen around impregnated with Amniotic Fluid.



Fig. 1
Fetal head BPD 87 mm midline marked by arrow H Head.

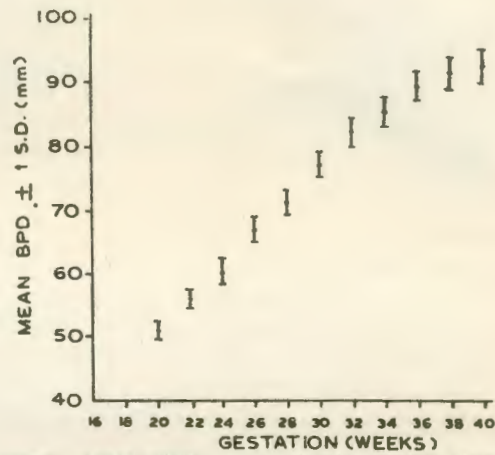


FIG. 2. MEAN BPD ± 1 S.D. FROM 20-40 WEEKS GESTATION.

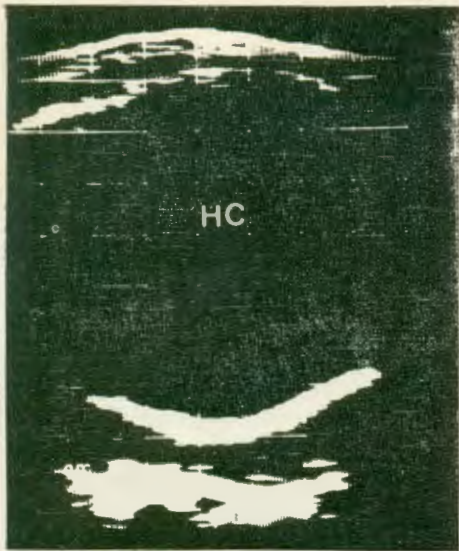


Fig. 3
Hydrocephalic head BPD 140 mm. HC = hydrocephalic head.

Study of Alpha-Facto Protein (AFP) in Liquor Amni—Rohatgi et al. pp. 309-311

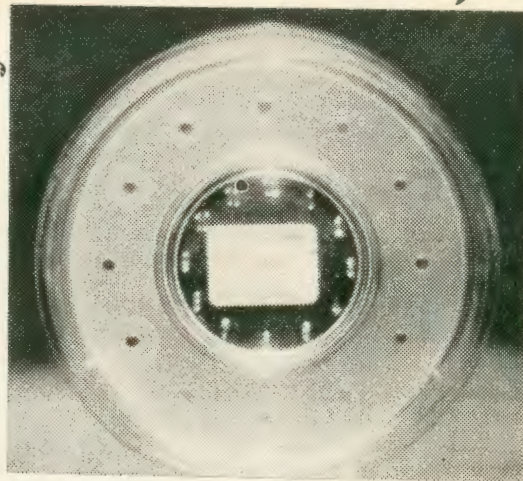


Fig. 1
Showing M-partigen A FP plates. Levels of A F P are measured by the precipitin bings formed around the wells.

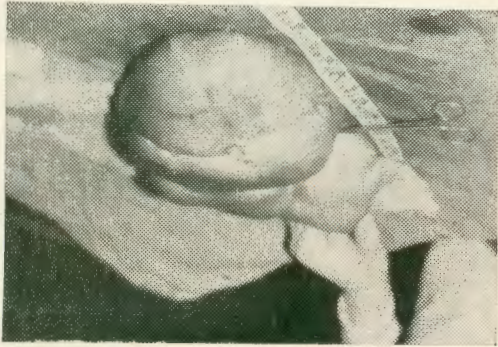


Fig. 1

The external features of the acardiac monster which comprised of illformed head, undifferentiated trunk and fused lower limbs.

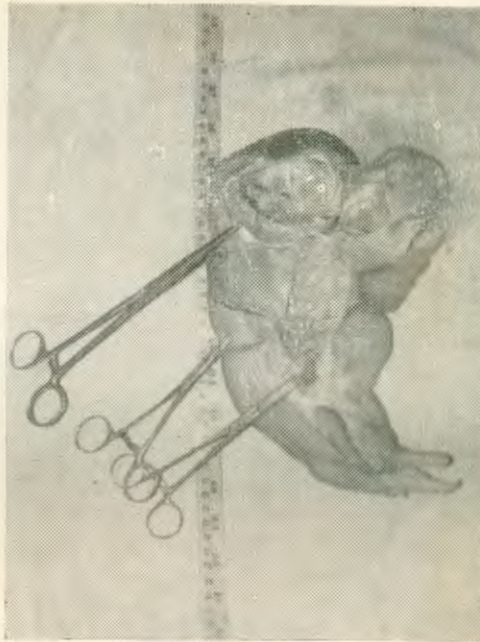


Fig. 2

Sagittal section of the monster. The clamp has caught hold the meninges and Allis forceps points to rudimentary gut.

Ureteral Rupture in a case of Cancer Cervix—Vaidyanathan et al. pp. 405-406

Fig. 1

Nephrostogram shows extravasation of contrast from the ureter at L-4 level (arrow head). The inferior calyx is not delineated (arrow). Note total occlusion of the distal ureter.



Fig. 1

Fig. 2

No extravasation of contrast is seen in this nephrostogram performed two weeks after establishing free urinary drainage. Note lateral deviation of the ureter at the site of previous rupture (arrow head). The inferior calyx is now visualised following repositioning of nephrostomy tube (arrow).



Fig. 2



Fig. 1
Showing stone projecting through the vagina.



Fig. 2
Shows stone, after removal.

A Giant Bartholin-Duct Cyst—Singh et al. pp. 413-414



Fig. 1
Shows an oval swelling in the left groin region,
hanging down towards knee, measuring 32 cms
x 12 cms.

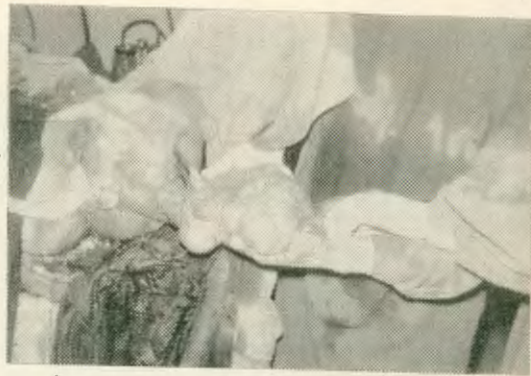


Fig. 2
Shows an opened loculus full of gelatinous
material.



Fig. 1

Microphotograph showing germtubes formation of *Candida albicans* in serum (control) at 37°C in three hours (High Power).

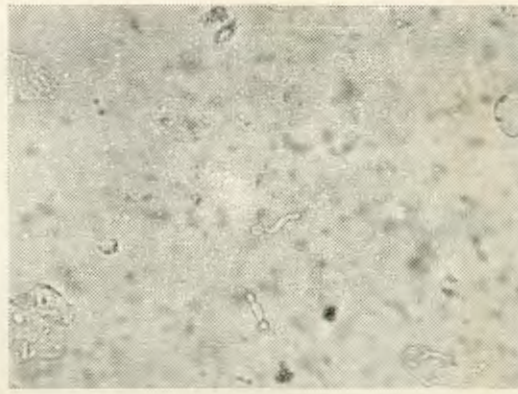


Fig. 2

Microphotograph showing germtube formation of *Candida albicans* in amniotic fluid (Case No. 8) at 37°C in three hours (High Power).

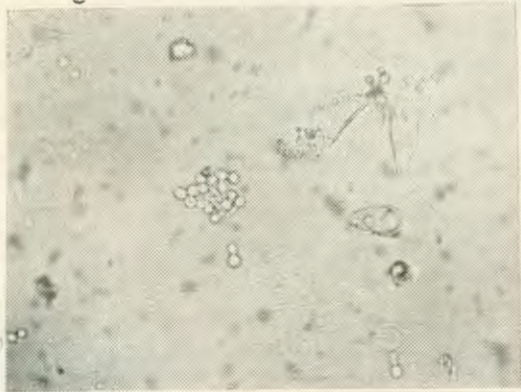


Fig. 3

Microphotograph showing absence of germtube formation in amniotic fluid (Case No. 16) at 37°C in three hours (High Power).

Sertoli Leydig Cell Tumours with Meig's Syndrome—Sandhu et al pp. 403-404

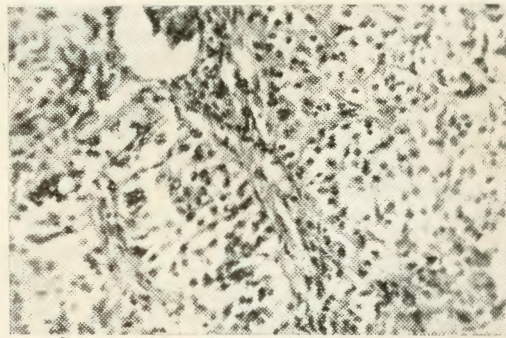


Fig. 1

Microphotograph showing sertoli leydig cells and an attempt at formation of tubular structures and cords.



Fig. 1

Under low power of microscope and enlarge four times—(16 x 4).

Sperms treated with sperm antibodies showing 50% of agglutination.

A. Agglutinated sperm.

B. Non-agglutinated sperm.

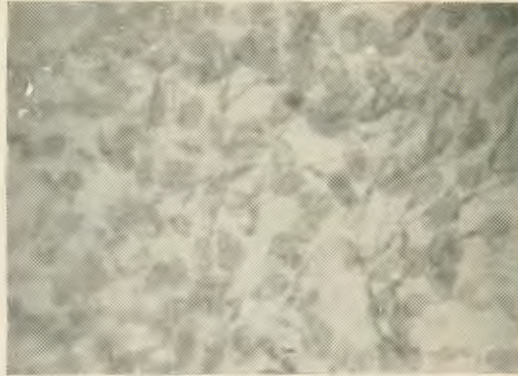


Fig. 2

Under high power of microscope and enlarge four times—(43 x 4).

Sperms treated with sperm antibodies showing 100% agglutination.

Hidradenoma Vulva—Ojha et al. p. 415



Fig. 1

Showing tall columnar epithelial cells, faint eosinophilic cytoplasm, large distinct nuclei and scarce stroma containing delicate connective tissue strands and capillaries.

TABLE I
1) Postmature Cases Delivered by L.S.C.S. Due to Foetal Distress after Induction

STUDY	Patient's No. in chronological order									
	1	2	3	4	5	6	7	8	9	10
(a) Age	25	22	27	30	25	24	24	21	27	27
(b) Parity	Primi	Primi	Primi	Primi	Primi	Primi	Primi	Primi	Primi	Primi
(c) Presentation and status of head	VX Floating	VX Floating	VX Floating	VX Floating	VX Floating	VX Floating	VX Floating	VX Floating	VX Floating	VX Floating
(d) Position	LOP	LOP	POP	LOP	ROP	ROP	ROP	ROP	ROP	LOP
(e) Nature of Uterine Contractions	Mild	Mild	Mild	Moderate	Mild	Moderate	Moderate	Moderate	Moderate	Moderate
(f) FHS $\frac{1}{2}$ Hr after induction	140	146	132	130	136	146	132	130	130	136
(g) FHS 1 Hr after induction	146	132	136	126	130	140	120	118	120	122
(h) FHS 2 Hrs after induction	136	120 LSCS	130	116 LSCS	136	136	—	—	—	—
(i) FHS 3 Hrs after induction	125 LSCS	—	120 LSCS	—	134	136	—	—	—	—
(j) FHS 4 Hrs after induction	—	—	—	—	124 LSCS	126 LSCS	—	—	—	—
(k) Cord around the neck	Yes twice	Yes twice	Yes twice	Yes twice	Yes twice	Yes twice	Yes twice	Yes twice	Yes twice	Yes twice
(l) Length of the cord	42cm	44cm	34cm	40cm	45cm	46cm	50cm	40cm	42cm	44cm
(m) Apgar score after birth	7	6	6	5	6	6	4	5	5	6
(n) Liquor stained with meconium	+	+	+	+	+	+	+	+	+	+
(o) Weight of baby	3.6kg	4kg	3.4kg	3.8kg	3.2kg	3.4kg	4kg	3.9kg	3.8kg	3.6kg
(p) Foetal length	48cm	45cm	45cm	48cm	50cm	46cm	48cm	50cm	46cm	48cm

TABLE II
Patients Delivered Around Term Per Vaginum with Cord Around the Neck

Study	No. of cases									
	1	2	3	4	5	6	7	8	9	10
(a) Age	24 Years	22	27	34	30	28	20	26	—	—
(b) Parity	II	III	III	IV	II	II	III	V	—	—
(c) Duration of labour	12 Hrs	14 Hrs	12 Hrs	14 Hrs	14 Hrs	16 Hrs	12 Hrs	14 Hrs	—	—
(d) Length of cord	46 cm	48 cm	46 cm	45 cm	38 cm	40 cm	42 cm	50 cm	—	—
(e) Nature of deliveries	Vaccum	Vaccum	Spontan	Vaccum	Vaccum	Spontan	Spontan	Vaccum	—	—
(f) Meconium stained liquor	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	—	—
(g) Apgar Score	6	5	7	6	5	6	5	6	—	—
(h) Weight of Baby	3 kg	3.2 kg	3 kg	2.8 kg	2.8 kg	3.4 kg	3 kg	3.4 kg	—	—
(i) Foetal length	40 cm	42 cm	42 cm	40 cm	44 cm	46 cm	40 cm	46 cm	—	—

possible risk of prematurity. Finboe used three standards for confirming a baby postmature:

1. Pregnancy had exceeded 290 days.
2. Foetal length exceeded 54 cms.
3. Foetal weight exceeded 4000 gms.

All these conditions were ratified in 2% of his cases but only the first is ascertainable with any accuracy before the delivery. These days we have more sure tools like sonar estimation of biparietal diameter of foetal skull and cytological tests to ascertain postmaturity. But unfortunately they are not available everywhere, so we have to fall back on Finboe's criteria and own experience.

The incidence of postmaturity quoted is around 2%. In our series it is 2.75%. The exact etiology of postmaturity has not been ascertained. But it appears to run in families. The author observed that cord around the neck was a common finding at LSCS when it was done in postmature women for one reason or the other.

In this series the cases were labelled postmature if they had 290 days amenorrhoea after ascertaining that they were very sure of their dates and after clinical examination confirmed that the size of the baby appeared to be reasonably around maturity. 22 post-mature cases did not have spontaneous onset of labour. Induction of labour was done. Because of previous experience the index of suspicion of cord around the neck was kept in mind and sign of foetal distress were looked for. Sure enough 10 cases (45.4%) developed foetal distress and on caesarean were found to have cord around the neck, 4 cases had no utrine contractions of foetal distress but on caesarean were found to have cord around the neck.

During the same time, 14 cases delivered around term viginally with cord around the neck. All had foetal distress and labour was prolonged. This gave an incidence of cord around the neck as 3.5%. 50% of these cases with cord around the neck were postmatures. At birth the babies weight and length showed that no mistake about dates had been made. All the ladies with cord around the neck had floating heads and posterior positions. There was no undue shortening or lengthening of the cord. Cord was only relatively shortened because it was wound around the neck. We looked for this condition and found it in most of the cases. Hamilton also claimed that this condition could be diagnosed before and during labour by the marked slowing of the foetal heat rate when the foetal head was pushed down into the brim of the pelvis. He suggested that this could be an indication for caesarean section and in three cases he confirmed the shortening effect of the cord which was wound round the infants' bodies.

In this series 45.4% cases developed foetal distress after onset of pain with induction. Probably the nature had been saving these babies by not triggering the contraction. So could it be that as the head does not go into the brim the uterine contraction did not start and head does not rotate or go into the brim because of cord around the neck. Is the triggering mechanism of labour pains in the lower segment or region of internal OS? This series is a definite pointer that cord around the neck could be a cause of post-

maturity. This condition should be suspected and looked for in post-term cases who do not have spontaneous labour pains. The results are rewarding as we have not lost any baby because of this condition.

Summary

1. There were 22 postmature deliveries out of a total 800 in the series over a period of 2 years.

2. Induction of labour was done in these cases after making sure of the dates in all these cases.

3. 10 cases developed foetal distress after induction. On caesarean section all the babies were found to have cord around the neck. 4 cases did not have any utrine contraction and on caesarean the cord was found around the babies neck. Eight cases delivered per vagina normally. There was no cord around the neck.

4. 50% of the cases with cord around the babies neck were post-mature. So it is discussed whether cord around the neck could be a cause of postmaturity and non initiation of labour pains.

5. In this series cord around the neck was suspected in post-term case and was found in 63.6%. All the babies were saved because of index of suspicion.

References

1. Operative Obstetrics, Munro Kerr's.
2. Practical Obstetrics, Ian Donald.