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RESEARCH ARTICLE

COFFIN BIRTH: A RARE CASE REPORT

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Abstract

A 25 years old female, resident of a village hanged herself in suspectin g conditions. The postmortem was conducted by a board of doctor. The dead body was referred to PGIMS Rohtak from Civil Hospital. The reason for referral was the "decomposed state of body with pregnancy of 8 months." At the time of autopsy, there was a big bulge in the lower cloth of deceased and the body was in a state of advanced putrefaction with greenish discoloration of almost the complete body surface showing pronounced marbling and, in addition, now a dead fetus was extruding from the birth canal with intact umbilical cord. Autopsy showed no signs of external violence prior to death and, in particular, no indication of preceding manipulations in the region of the obstetrical canal and the uterus could be detected. The uterine cavity showed pronounced putrefactive alterations with the amniotic membranes being partially raised and bloated in a balloon-like fashion. The foetus showed no signs of live birth. The typical finding of not only the head but also the whole fetus extruding from the birth canal at the time of autopsy is consistent with post- mortem fetal extrusion caused by putrefactive gas pressure against the pregnant uterus.

Introduction:-

Postmortem fetal extrusion was first documented in a medical compendium published in 1896. The compendium, Anomalies and Curiosities of Medicine, offered multiple examples of coffin birth dating back to 1551. Postmortem fetal extrusion, referred as coffin birth, is defined as the expulsion of a dead fetus following the death of a pregnant or parturient woman, where the maternal corpse shows clear signs of putrefaction[1].

According to the literature, only fetuses with cephalic presentation are expelled. Postmortem fetal extrusion of a fetus has been observed prior to or after enclosure in a coffin (when the corpse had been re-examined), in the context of exhumations, and occasionally after the recovery of drowned bodies[2]. The phenomenon of postmortem fetal extrusion might raise the suspicion of an (apparently dead) person having been buried alive or of preceding

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medical/obstetrical malpractice, or even of an attempted self-abortion. Here, we report the case of a complete postmortem fetal extrusion following the hanging of the mother.

Case Report:-

A 25 years old 8 months pregnant female dead body was brought todeptt. Of Forensic Medicine, PGIMS Rohtak forpostmortem examination from Civil Hospital due to decomposition and with alleged history of death due to hanging. The body was wearing a yellow coloured half sleeved ladies kameez with red coloured pyjami. Other ornaments like nose ring, plastic bangles, plastic kada, rubber bracelet, metallic rings were also present. The clothes were smudged with decomposed tissue at places.

On External Examination body was emitting foul smell. Scalp hair were black, 60 to 65 cm long and peeled off on moderate traction. The scalp and skin over the body showed dark discoloration at places. Ears, eyes, nose, mouth, lips and tongue were deformed due to putrefaction. The right eye was close and left eye was open with eyeballs putrefied, softened and protruding out. The mouth was open with tongue protruding out. Blood tinged secretions were present around mouth and nostrils.

Face distended with bloating of the facial features and body was identifiable with difficulty. Marbled appearance of skin was present at root of extremities, neck and sides of trunk.Post mortem bullae were present at places. Axillary and body hair were peeled off at places. Epidermis was peeled off at places.

The chest was tense. Abdomen was distended. Pubic hair were 2 to 3 cm long, black and curly. Uterus and rectum were protruding out. The foetus was expelled out of uterus due to postmortem delivery of foetus and was present in the pyjami of the deceased. (Fig 1& 2)Ligating material in the form of soft yellow coloured chunni with rolled up width of 3 to 3.5 cm was present around the neck in one ply.

A sliding knot was present over anterior aspect of neck. The inner circumference of the ligating material was 27 cm. It had two free ends. The length of longer end was 100 cm. The length of shorter end was 56 cm and a knot was present over it. The ligature was situated 5 cm below the centre of chin at midline, 3 cm below right angle of mandible, 1.5 cm below left angle of mandible and 7 cm below the external occipital protuberence. It was present above the thyroid cartilage on front of neck and was going upwards, backwards and obliquely on both sides.

A reddish abraded ligature mark of width varying between 2 to 3 cm was present around the neck except over a small area over anterolateral aspect of left side of neck. The ligature mark on both sides was directed upwards and backwards obliquely. The ligature mark was situated over the upper part of thyroid cartilage 6 cm below the chin in anterior midline, 3.5 cm below the right angle of mandible, 1.5 cm below the left angle of mandible and 8 cm below the external occipital protuberence. On dissection, the underlying tissues were pale, white and glistening. Marginal ecchymosis was present.

The weight of foetus was 1250 grams. The crown to heel length was 40 cm. The skin was showing dark discolouration at places. Slippage of skin was present at places. Both eyes were open and eyeballs softened and protruding out. The mouth was open. The head circumference was 22cm, chest circumference was 26 cm and abdominal circumference was 20 cm. Foot length was 5.5 cm. The sex was appreciable as female foetus. The scalp hairs were black and were 1 to 1.5 cm long. The nails were reaching up to the tips of fingers. The length of umblical cord was 46 cm and it was attached to fetus at one end and with placenta at the other end. The size of placenta was 14x7 cm.

On dissection and internal examination of Foetus: In the skull, the sutures were separated. The underlying brain mater was putrefied. In the chest, both lungs and heart were softened and putrefied. In the abdomen, the abdominal viscera were softened and putrefied. No sign of fetal macerations was present. The ossification centres for calcaneum and talus bones were present. After examination it was concluded that, it was a decomposed dead body of a female foetus of about 8 months of intra uterine age.

No external or internal injury other than the ligature mark was present over the body of the female during postmortem examination.After postmortem examination the opinion regarding cause of death was given as antemortem hanging. However, viscera have been preserved for detection of poison which came negative. The probable time between death and postmortem examination was given as – About 2 to 3 days.

Fig 1: showing dead body of female along with ligating material

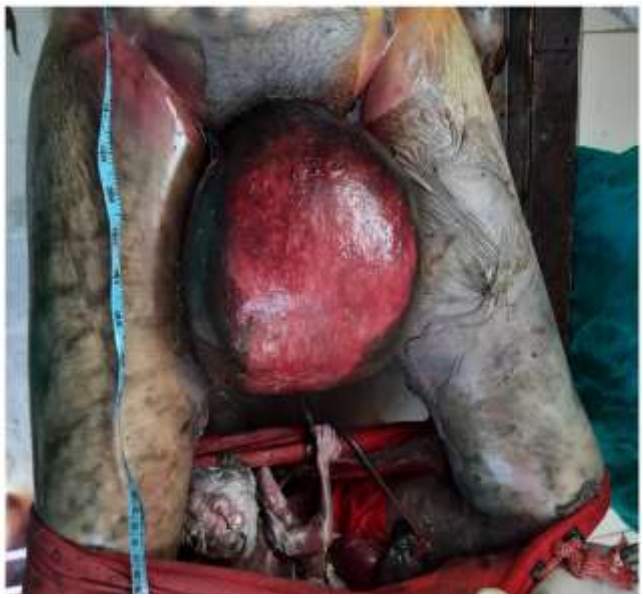

Fig 2: showing dead body of female along with expelled out of uterus &postmortem delivery of foetus.

Discussion:-

The process of decomposition in pregnant women results in gas buildup (methane, carbon dioxide, and hydrogen sulfide) in the abdominal cavity. This pressure can expel the fetus through the vaginal canal. Unlike live births, this process is mechanical, driven entirely by the pressure exerted by the gases.[3] Ancient Indian medical texts like Charaka Samhita and Sushruta Samhita discuss maternal deaths but do not directly address coffin birth.

However, they provide insights into how ancient practitioners might have interpreted unexplained fetal extrusion.[4]Globally, cases of coffin birth have been documented in historical contexts. In 1551, one of the earliest known documented cases of coffin birth was recorded: a victim of the Spanish Inquisition, swinging at the gallows, gave birth hours after her execution.[5] A medieval grave in Imola, Italy, revealed a pregnant woman whose fetus was expelled postmortem due to decomposition.[6]

There are no widely reported modern cases in India. However, forensic experts in India acknowledge the possibility of postmortem fetal extrusion in cases of unattended maternal deaths in rural areas. Such cases may go undetected due to lack of awareness or investigation.[7]

Previous studies addressing this issue advance the opinion that immature fetuses are more easily and effectively expelled by the increasing pneumostatic pressure of putrefactive gases because under normal pelvic conditions the resistance to be overcome is lower. By contrast, postmortem fetal extrusion of a mature fetus requires a dilatation of the internal os of the cervical canal prompted by antemortem uterine contractions (in the sense of the first-stage of labor).

Infectious diseases, eclampsia, and drug abuse are regarded as conditions favoring the first stage of labor. Likewise, the possible involvement of postmortem uterine contractions caused by onset of rigor mortis within the uterus musculature cannot be discounted. However, in general, rigor mortis may have a more inhibitory effect on the expulsion of the fetus because it also involves the muscles of the floor of the pelvis and thereby results in increased resistance to expulsion.

In any event, the increase of intra-abdominopelvic pressure owing to the formation of putrefactive gases has to be considered the crucial factor in determining whether or not postmortem expulsion of the fetus in a pregnant woman occurs.[8,9,10]Coffin birth usually occurs 48–72 hours after death when decomposition is advanced. This can help forensic experts estimate the time of maternal death[3].

It is now well recognized that changes of decomposition can hinder the assessment by producing gaseous artifact and that this is present in a large proportion of suspected neonaticide cases. In Germany, severe decomposition was described in 27% of (suspected) neonaticides[11].

Challenges in the Indian Context:

- **Underreporting:** Cases may remain unreported due to lack of awareness among healthcare providers and law enforcement.[7]
- **Cultural Taboos:** Discussion and investigation of maternal deaths often face resistance in conservative communities.[7]

Conclusion:-

Coffin birth, or postmortem fetal extrusion, is a rare and naturally occurring phenomenon where a deceased fetus is expelled from the birth canal of a pregnant woman after her death due to the buildup of gases from decomposition. This event typically occurs in cases where the mother's body undergoes significant putrefaction, leading to increased pressure in the abdominal cavity, which forces the fetus out of the uterus.

While the phenomenon is unusual, it is well-documented in forensic literature and should be understood as a postmortem process rather than an indication of foul play or live birth. Coffin birth may occur in various circumstances, including deaths by hanging, drowning, or other conditions where the body undergoes rapid decomposition. The phenomenon underscores the need for careful forensic analysis to differentiate between natural postmortem changes and potential signs of trauma or malpractice.

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