MENDELSON'S SYNDROME

(Report of One Case)

by

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At present no obstetric unit is perfect without a special anaesthetic unit but in general practice the custom of instituting anaesthesia by accoucheur himself, nursing staff or some medical or paramedical staff without proper knowledge of anaesthesia is still prevailing in many developing countries, forgeting a dreadful complication of anaesthesia "Inhalation of stomach content" which accounts for a considerable maternal death per year. Mendelson (1946) has described two distinct types of symptoms resulting from aspiration of gastric contents during anaesthesia (1) obstructive type, due to entry of solid food particles in to the bronchial system, (2) asthmatic type-caused by inhalation of acid (pH less than 2.5) stomach fluid true **Mendelson's Syndrome.** In this paper we are presenting one such case.

Case Report

S. K. aged 16 years primigravida, was attend-tending antenatal clinic of a general practitioner. She was suffering from moderate pre-eclamptic toxaemia and was referred to Eden Hospital on 18-8-77 at 7.25 p.m. from a Nursing Home, where she had an attempted forceps delivery under ether anaesthesia.

On Examination: Patient was unconscious, not responding to painful stimuli. Pulse, 160 per min., Respirations, 48 per min. laboured with short and jerky inspiration. Cyanosis + + B.P.—90/70 mm of Hg. Oedema feet + Temp. —40°C, Heart—NAD. Lungs full of wheezy rhonchi and rales. Pupils—constricted and not responding to light. Planter response—extensor.

Obstetrical Examination: Uterus—full term, Contractions were sluggish, L.O.P. vertex not engaged, F.H.S. 160 per min. regular.

Local Examination: Vulva: Oedematus. Bladder was catheterized and catheter was left in situ. 200 ml. high coloured urine was drained and urine contained fair amount of albumin. There was some bleeding from vagina. Cervical os was fully dilated and taken up. Lower pole of the vertex was above ischial spines. Small gynaecoid pelvis.

Investigation: Blood: Hb—10.5 gm%. WBC—8.500/cmm. P—65, L 16, E 11 M 8. Urine: Alb. + gastric juice—pH 2.4 X-ray Chest 18-8-77 Opacity left side of the lung—20-8-77—Same finding. 27-8-77—Clear.

Management: Immediately after admission, brownish coloured liquid material was sucked out of trachea by largyoscopic and cuffed endotracheal tube introduced and O_2 was given in positive pressure. 5% Dextrose with 40 ml.. 7.5%, $NaHCO_3$ intravenous drip was started Inj. Cryst. penicillin 10 lacs and streptomycin 1 gm was given intramuscularly. Inj. Dexamethasone 8 mg. intravenous and 8 mg. intramuscular was

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Accepted for publication on 8-1-79.

given. Inj. Aminophylline 250 mg. was given intravenously very slowly. Four hours after the initial treatment patient improved. Pulse 140 per min. Respirations 30 per min., B.P.—110/90 mm Hg., Cyanosis—Slight, Lungs—rales/rhonchi, ++. Level of consciousness not much improved.

It was decided to perform caesarean section in view of the obstetrical findings. L.U.C.S. was done under general anaesthesia O_2, N_2O 50:50 ratio Gallomine 80 mg. semiclosed Magill's circuit with head tilted up position. Female baby with apgar 7 was delivered but there were multiple congenital deformities (hare-lip, cleft palate, mild hydrocephalus).

Postoperative: O_2 inhalation. No analgesia or sedation till full consciousness returned (patient regained consciousness 12 hours after operations). (Total 1000 ml. 5% Dextrose and 500 ml. 10% Dextrose and 100 ml. $NaHCO_3$) was infused in 24 hrs. Inj. hydrocortisone 500 mg. intravenously on return from O.T. and 200 mg. intramuscularly at 6 hourly interval for 24 hrs. and then gradually reduced. Inj. cryst. penicillin 10 lacs twice a day and streptomycin ½ gm. B.D. was given for 7 days. Urinary output was good. Postoperative period was uneventful except for a small gap of abdominal wound which healed spontaneously. Baby was well for 3 days then expired (due to lung infection and congential malformation). Patient went home on 14th postoperative day.

Discussion

Pregnancy and labour are liable to cause delay in gastric emptying which is further aggravated by fear, pain, anxiety, drugs, exhaustion and blood loss. LaSalvia and Steffen (1950) found by radiographic study fluid level in cardiac end of the stomach 5 to 11 hours after test meal in 54% of women in labour with sedation Holmes (1956) has suggested that gastric secretion of acid is increased during labour. Besides delayed emptying of the stomach, there is increased intragastric pressure during pregnancy and labour, particularly in supine and lithotomy position. O'Mullane (1954) pointed out that normal intragastric pressure was approximately 5 cm. water and that even if the abdomen was distended, the intragastric pressure did not increase beyond 18 cm. water provided that pressure was not applied externally during labour. Snow and Nunn (1959) is of the opinion that with head up position when the table is tilted through 40 degrees the level of the opening to the larynx will, in the adult 19 c.m. above the level of the cardia. Kerr (1961) reported that bronchopulmonary resistence increases in toxaemia of pregnancy and there is a drop in the concentration of plasma histamine which according to him may be the basis of Mendelson's Syndrome.

All obstetricians know that during labour emptying time of the stomach decreases and as such restrict oral feeding in high risk patients e.g. patients who may need anaesthesia for delivery. By this in modern obstetrics, obstructive type of lung complication has nearly been eliminated in good maternity unit but asthmatic type is still a worrying condition. Dinnick (1957), has suggested administration of antacid to diminish acidity of the gastric content, which is seldom practised by obstetricians. In practice a less experienced anaesthetist or an occasional anaesthetist has got the idea that head tilt down is ideal for anaesthesia forgetting the experimental work of Snow and Nunn (1959) and O'Mullane (1954). Those who know head tilt up is better position for anaesthetic, often forget the warning of O'Mullane (1954) and give abdominal pressure to help the obstetrician in delivering the baby both in caesarean section and forceps delivery, inviting complications like Mendelson's Syndrome. Even when all precautions are taken, incompetent cardia and unsuspected haitus hermia may lead

to Mendelson's Syndrome if anaesthesia is given without intubation. Case under discussion had all the clinical signs of Mendelson's Syndrome e.g. cyanosis, tachycardia, hypotension and bronchespasm and that the condition developed due to aspiration of gastric fluid was proved by the presence of gastric fluid in the trachea. This patient was suffering from toxaemia of pregnancy, and open ether anaesthesia was given to cut short the prolonged labour by forceps delivery and most probably fundal pressure was applied (which is one of the usual technique in an ill equipped place)—the chance of development of Mendelson's Syndrome was more and actually she developed the same.

Management of the case is quite justified because the patient had uneventful recovery and went home. Baby died on the third postoperative day due mainly to multiple congenital deformities and lung infection. Instillation of 5-10 ml. 4% lignocaine or bronchial lavage has been suggested by some in this type of cases but in practice it has been found that high dose hydrocortisone is preferable than pursuance further therapautic manoevures. Kerr (1961) is of opinion that hydrocortisone has no value in this type of cases. But the case under discussion—a case of pre eclamtic toxaemia responded dramatically with hydrocortisone.. Hausmann and Lunt (1955) is of the same opinion.

Acknowledgement

We are grateful to Prof. M. Konar, Head of the Deptt. of Obst. & Gynaecology and Prof. S. Pramanik, Head of the Deptt. of Anaesthesiology, Medical College Hospital, Calcutta for helping us in preparing the paper. We are also thankful to Dr. J. B. Mukherjee, Principal-Superintendent of Medical College and Hospitals, Calcutta for allowing us to publish the paper.

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