were dissected out, weighed and observed for gross malformations, followed by photography. Finally, the vital organs were fixed in 10% formalin up to 48 h for further microscopic studies.

Result: On macroscopic examination, there were reduction in size and weight of the various vital organs of treated group. The microscopic findings of treated liver showed destruction of parenchyma along with dilated central vein and sinusoids, while treated kidney showed destruction and degeneration of cortical and medullary cellular structures. The treated brain showed dilated ventricles, damage of ependymal lining, degeneration of choroid plexus and oedematous changes in cortical and sub-cortical zones. The treated placenta showed degeneration of various zones, degenerated trophoblastic cells and sinusoids.

Conclusion: Propylthiouracil shows degenerative effect on various vital organs when given during period of organogenesis, so it should be cautiously used in first trimester of pregnancy.

Conflicts of interest

The authors have none to declare.

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A fetal study of craniorachischisis, with emphasis on prenatal diagnosis and prevention

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Introduction: Central nervous system (CNS) malformations constitute a sizeable percentage of the total incidence of the congenital malformations second only to cardiac malformations. Failure of fusion of cephalic part of neural tube is known as exencephaly and caudal part of neural tube is Spina bifida. Therefore emphasis was based on prenatal diagnosis and prevention.

Materials and methods: The present study includes 2000 live births in a period of 2 years with 100 stillborn foetuses and abortuses to elucidate craniorachischisis. The fetuses were sent from the Department of Obstetrics and Gynaecology KAMS&RC. The detailed study of these foetuses was done after fixing with formalin and the findings were appropriately documented and photographed.

Results: The three unclaimed foetuses were female, of which two were craniorachischisis totalis of 40 weeks and 23–25 weeks and the other being craniorachischisis with an omphalocele of 26–28 weeks.

All these fetuses showed presence of anencephaly with extension of defect to the thoracic and lumbosacral region.

Discussion: Neural tube defect (NTDs) is an embryonic induction disorder which results from failure of formation of both mesoderm and neuro-ectoderm. The reduction of 50–70% of NTDs following peri-conceptional folic acid administration initiated series of clinical studies by number of authors. In conclusion most NTDs are sporadic and both genetic and non-genetic environmental factors are involved in its aetiology.

Conflicts of interest

The author has none to declare.

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A study on anencephaly and associated anomalies at a tertiary health care center

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Introduction: Anencephaly is a neural tube defect that occurs in 1–8 births in every 10,000 births in various populations in world. Infant organ transplant has led to renewed interest in study of anencephaly.

Aim: Current study was performed to find out associated abnormalities of anencephaly and their relative frequency.

Materials and methods: Study was performed on 30 fetuses of less than 20 weeks gestation obtained from Department of Gynecology and Obstetrics at Pt. B. D. Sharma PGIMS Rohtak. Fetal autopsies were performed to find out the spectrum of anomalies in each fetus included in study.

Results: Anencephaly was found in 50 percent of cases in study. External ear malformations were found associated with 53 percent cases. Proptosis was most common associated anomaly observed in 46 percent of cases of anencephaly. Meningomyelocele, Spina bifida, curvature anomalies of spine and neck maldevelopment were observed in 40 percent of cases. Liver anomalies and lung anomalies were found in 26 percent of cases. 20 percent cases were associated with congenital talipse equino varus (CTEV). Gastrointestinal tract anomalies associated with anencephaly included duodenal atrasia and stomach hypoplasia.

Conclusion: External ear malformations and proptosis are most common malformations associated with anencephaly whereas spina bifida, meningomyelocele, and curvature anomalies of spine are other common associations of anencephaly.

Conflicts of interest

The authors have none to declare.

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Gross morphological features of human placenta from control and gestational diabetic mothers

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Aim: Gestational diabetes mellitus (GDM) is an ever increasing threat in Indian women, found up to 10% of the total pregnancies and is mainly due to diet, obesity and sedentary life style. Placenta is the vital organ of intrauterine life, forms the picture of whole pregnancy. The present study has undertaken to observe the morphological changes of GDM and control placenta.

Material and methods: Total number of 110 placentas, out of which 55 are GDM and 55 from control were procured for the present study along with mother's age, gestational age and baby's weight. All samples were studied morphologically and histologically.

Result: The morphological aspects of GDM were found be more significant when compared to normal. In GDM placentas, mean placental weight was 537.27 ± 131.97 with a range of 330–890 g, mean placental volume was $482.61 \pm 142.17\ ml^3$ in GDM with