*Ethical issues experienced in the application of human genetics technologies*. The possibility of misuse of gene therapy for the purpose of eugenics, commercial exploitation of the donor mother in cases of "three parent babies" and conceiving "savior babies" through pre-implantation genetics tests are future ethical challenges. *Patenting of genes*. A gene patent is a patent on a specific isolated gene sequence, its chemical composition, and the processes for obtaining or using it. It is a constant ethical issue as to who owns the tissue (genes) – the patient or the laboratory. Patents act under Section 3C of Indian law states a gene is "patentable" only if it is "recombinant".
**Conclusion:** There are no easy or correct solutions for difficult ethical problems in medical genetics. With new discoveries new ethical dilemmas will emerge. Medical genetics community has to ensure that interests of their patients and families take precedence.

## 31. A study of interparietal bones in adult human skulls

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**Introduction:** The squamous part of the occipital bone consists of an upper membranous or interparietal part and a lower cartilaginous or suboccipital part. Controversy exists regarding the ossification of these two parts. Failure of fusion of ossification centers gives rise to various anomalies of the interparietal bone.
**Objective:** To study the human dry skulls for the presence of the interparietal bones and to note its incidence.
**Methods:** 50 dry adult human skulls were collected from the Departments of Anatomy, Regional Institute of Medical Sciences (RIMS), Imphal and J.N. Institute of Medical Sciences (JNIMS), Imphal, Manipur and examined for the presence of interparietal bones; incidence was noted, photographs taken and compared with previous observations.
**Results:** Interparietal bones were present in 11 out of the 50 (22%) skulls examined.
**Conclusion:** Interparietal bone can appear in various forms and position. Knowledge of interparietal bone is important for the radiologists, neurosurgeons, anthropologists, orthopedicians, and forensic experts in their respective fields.

## 32. Role of neurokinin-1 receptor antagonist in attenuating morphine tolerance in rats

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**Objective:** Substance P (SP) is an important 11 amino acid neuropeptide, which is involved in transmission of pain at the spinal level. It acts on the Neurokinin-1 (NK1) receptors, which are present in different parts of nervous system. It was hypothesized that an antagonist of the NK1 receptor will relieve pain. In the current study, the role of SP and NK1 receptor antagonist was investigated for potentiating the analgesic effect of morphine.
**Methods:** Localization of SP in spinal cord was done using immunohistochemistry. Morphine (10 mg/kg) was administered subcutaneously for 7 days. In a separate group of rats, morphine was co-administered with NK1 receptor antagonist fosaprepitant by intraperitoneal route at a dose 30 mg/kg for the same duration. Finally after 40 min time interval, pain sensitivity was evaluated by the hot plate test at 52.5 °C. Locomotor activity and cardiac parameters were measured after administration of NK1 receptor antagonist.
**Results:** SP was localized in the superficial laminae of spinal cord. Co-administration of NK1 receptor antagonist with morphine attenuated morphine tolerance. There was no alteration of motor activity or normal cardiac parameters after NK1 receptor antagonist administration.
**Conclusion:** SP localization in the dorsal horn of the spinal cord suggests its involvement in pain transmission. Fosaprepitant potentiated the action of morphine and also attenuated morphine tolerance. This finding could be of clinical relevance.

## 33. Potter's syndrome/Potter's sequence – A rare congenital anomaly

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**Objective:** Detailed study of embryogenesis and embryological anomalies and their various presentations.
**Methods:** Routine dissection of foetuses was done during dissertation work and embryological study in department of anatomy, Andhra Medical College, Visakhapatnam, Andhra Pradesh. Foetuses were collected from Department of Obstetrics and Gynaecology, Victoria Government Hospital and King George Hospital, Visakhapatnam.
**Results:** Foetus showed features of Potter's facies. The kidney is horseshoe shaped with lower poles fused. Kidney is polycystic with bubble-like appearance. The renal pelvis is separate with two ureters on the right and left, running down, but are seen fused before reaching the bladder and opened as a single ureteric opening. The rectum and bladder have a common outlet sharing defective urorectal septal development. Anal agenesis was noted. The embryological basis and clinical importance will be presented at the conference.
**Conclusion:** Sound knowledge of embryogenesis and the associated congenital anomalies and the importance of appropriate usage of prenatal diagnostic techniques are mandatory in field of obstetrics and gynaecology, paediatrics and paediatric surgery. For effective prenatal care, early diagnosis of the anomalies and timely appropriate counselling of the parents to take the right decision at the right time are essential.

## 34. Correlation of fetal gestational age with bi-parietal diameter by ultrasonography in southern part of Rajasthan

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