

a range of 144.12–700 ml<sup>3</sup>, and mean placental diameter was 168.2 ± 13.23 mm with a range of 147–186 mm. Thickness in GDM was 23.69 ± 5.08 mm. The average number of placental cotyledons was 19.38 ± 3.4 in GDM, which was significantly higher, revealed its excessiveness. Feto-placental ratio was 5.96 ± 1.06 in GDM. Histological findings showed vascular hyperplasia, cytotrophoblast proliferation, calcification of villi, fibrinoid necrosis, hyalinisation, and thickening of basement membrane and wall of stem arteries.

**Conclusion:** Significant placental morphological and histological changes of GDM observed in the present study may be considered as a clinical importance. The impact of these changes may reflect on perinatal outcome of the pregnancy, resulting in macrosomia, congenital malformations and intrauterine growth retardation.

#### Conflicts of interest

The authors have none to declare.

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#### Hydrogen sulphide producing enzymes are decreased in preeclamptic placenta



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**Introduction:** Preeclampsia, a human pregnancy specific disorder is characterized by a poorly perfused, ischemic placenta which may release anti-angiogenic and pro-oxidant factors in maternal circulation causing endothelial dysfunction. Thus it becomes imperative to study the expression of compounds like hydrogen sulphide which recently have been shown to possess pro-angiogenic and anti-oxidant properties. In the present study, we aimed to compare the status of these hydrogen sulphide producing enzymes cystathionine-gamma-lyase (CSE) and cystathionine-beta-synthase (CBS) in placenta from preeclamptic as well as normotensive non-proteinuric (control) pregnant women.

**Methods:** The placenta from gestational and maternal age matched preeclamptic ( $n = 20$ ), and normotensive, non-proteinuric controls ( $n = 20$ ) were obtained from department of gynaecology after taking ethical clearance. The paraffin embedded placental tissues were processed for immunohistochemistry. The rabbit polyclonal primary antibodies were used to see the expression of CSE & CBS using streptavidin–biotin complex method. Images were captured using Nikon Ti-S microscope. The mean intensity was analysed using NIS elements advanced research software.

**Results:** The mean intensity of CSE and CBS in the chorionic villi was significantly lower in the placenta of preeclamptic (PE) as compared to the control placenta ( $p < 0.01$ ). CBS was localized in syncytiotrophoblasts as well as blood vessels whereas CSE was present predominantly in fetal vessels.

**Conclusion:** Decrease in CBS and CSE in preeclamptic placenta as compared to normotensive placenta observed in the present study indicates down regulation of anti-oxidant substances which could result in increased oxidative stress in trophoblast cells during early gestation leading to the development of preeclampsia.

#### Conflicts of interest

The authors have none to declare.

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#### Cobbler's cut: A new modality for procuring ossicles



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**Introduction:** Temporal bone is one of the most complex bones in the human body and it serves a valuable source for learning anatomy of tympanic cavity housing ossicles. Methods for dissecting the middle ear, which were described in the text books of anatomy and ENT mainly involve the piece meal removal of the bone.

**Material and methods:** The present study was conducted on 250 temporal bones of 125 unidentified cadavers. Temporals were dissected and studied with the help of *Cobbler's cut technique*. This is a very simple technique which involves only a single chisel cut that quickly exposes the middle ear cavity and helps in easy procurement of ear ossicles.

**Results:** Bilateral temporal bones were evaluated for the efficacy of the technique. In 88% of cases a complete set of ear ossicles were retrieved easily and in 12% cases the complete set of bones could not be collected, as one or two bones were found to be broken or missing.

**Conclusion:** In contrast to the traditional methods of piece meal removal of bone for exploring the middle ear cavity, the Cobbler's cut technique proves to be the easier, less time consuming and least destructive method of dissection for procurement of ear ossicles.

#### Conflicts of interest

The authors have none to declare.

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#### A study of sexual dimorphism in permanent mandibular canines and its implication in forensic dentistry



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**Aims and objective:** To calculate mandibular canine index and sexual dimorphism methods for sex determination.

**Material and methods:** Present study was conducted on 180 adult subjects (90 males and 90 females) in age group 17–25 years who visited Govt. Dental College and private dental clinics for various complaints. Patients with carious teeth, periodontal diseases and malocclusions were ruled out. Mandibular arch width was measured intra-orally from tip of right canine to the tip of left canine. Mesiodistal Width of both Mandibular Canines was also calculated. Measurement is divided into two groups. Group A as male & Group B as female.

#### Method of study:

1. Mandibular canine index =  $\frac{\text{mesiodistal own width of mandibular canine}}{\text{mandibular canine arch width}}$
2. Sexual dimorphism =  $\frac{X_m}{X_f}$

$X_m$  – mean value in males.

$X_f$  – mean value in females.

**Result:** The intra-Oral Canine Index was calculated to be 0.28 in right mandibular canine; and 0.28 in left mandibular canine among