

Proporsi dAviyanti Djurzanehisensi kanal fallopii dan protrusi saraf fasialis segmen timpani terhadap oval window tulang temporal normal dengan high resolution multi detector computed tomography =  
Proportion of tympanic segment fallopian canal dehiscence and facial nerve protusion of normal temporal bone with high resolution multi detector computed tomography

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Abstrak

**TUJUAN:** Mengevaluasi variasi normal kanal fallopii segmen timpani dengan high-resolution multidetector computed tomography (HR-MDCT) serta mendapatkan nilai proporsi dehiscensi dan protrusi inferior kanal fallopii segmen timpani.

**METODE:** Seratus sampel tulang temporal diperoleh dari rekonstruksi 50 raw data subyek yang sebelumnya dilakukan pemeriksaan CT-kepala dengan menggunakan parameter rekonstruksi slice thickness 0.6 mm, increment 0.3 mm, kernel filter H70s, dan window setting mastoid (WW 4000/WL 600). Sebelumnya, data tersebut harus memenuhi kriteria inklusi dan tidak memenuhi kriteria eksklusi. Dengan menggunakan aplikasi rekonstruksi multiplanar, kanal fallopii segmen timpani dievaluasi ada tidaknya dehiscensi dan posisi terhadap oval window yang dibagi menjadi kategori protrusi 50% dan <50% lebar oval window serta tidak ada protrusi. Evaluasi menggunakan potongan koronal-oblik dan sagital-oblik sedemikian rupa agar struktur kanal fallopii, oval window, dan incudo-stapes terlihat jelas. Pengukuran protrusi menggunakan garis imajiner yang dibuat sejajar dengan aksis dua titik, yaitu processus lenticularis dan di tengah lebar oval window.

**HASIL:** Karakteristik demografik subyek (n=50) terdiri dari 52% laki-laki dan 48% perempuan, dengan usia 7-80 tahun (rerata=44,5). Dehiscensi kanal fallopii segmen timpani ditemukan 31 dari 100 sampel (31%) predominan pada laki-laki dibandingkan perempuan. Protrusi 50% sebanyak 4%, protrusi <50% sebanyak 15%, dan 81% tidak terdapat protrusi. Tiga dari empat sampel dengan protrusi 50% terdapat dehiscensi kanal fallopii segmen timpani. Menggunakan uji kemaknaan Chi-square hubungan antara dehiscensi dan protrusi kanal fallopii tidak terdapat hubungan bermakna (p=0.176).

**KESIMPULAN:** HR-MDCT dan aplikasi MPR merupakan modalitas pencitraan yang sangat berguna dalam mengevaluasi stuktur kecil telinga tengah, terutama mengobservasi adanya dehiscensi dan protrusi kanal fallopii segmen timpani sebagai evaluasi pre-operatif sebelum operasi stapes.

.....**PURPOSE:** Evaluate normal variation of tympanic segment fallopian canal through high-resolution multidetector computed tomography (HR-MDCT) of which proportion of dehiscence and inferior protrusion of tympanic segmen fallopian canal can be obtained.

**METHODS:** One hundred sample of temporal bone which were obtained by reconstruction from raw data of 50 subjects previously performed head CT examination using parameters slice thickness 0.6 mm, increment 0.3 mm, kernel filter H70s, and window setting of mastoid (WW 4000/WL 600). Beforehand, subject data have to fulfil inclusion criteria and there?s no exclusion criteria. Using multi-planar reconstruction (MPR) application, tympanic segment fallopian canal were evaluated from the presence of dehiscence and its position towards oval window which were categorized into 50% protrusion oval window width, <50%

protrusion oval window width, and no protrusion. Evaluation were using coronal-oblique and sagittal-oblique planes so that fallopian canal, oval window, and incudo-stapes superstructures can be fine depicted. Measurement of protrusion using imaginary lines which were made parallel to axis of two points, processus lenticularis and the middle of oval window width.

**RESULTS:** Subjects demographic characteristics (n=50) consist of 52% men and 48% women, aged from 7 untill 80 years old (mean= 44.5). Presence of tympanic segment fallopian canal dehiscence were found in 31 of 100 samples (31%) predominantly in men than women. Presence of 50% protrusion were found 4%, <50% protrusion 15%, and the remaining 81% samples do not have protrusion. Three of four samples of 50% protrusion were dehiscent, while one samples was not dehiscent. Using Chi-square significance test, there?s no significant relationship between fallopian canal dehiscence and protrusion (p=0.176).

**CONCLUSION:** HR-MDCT and application of MPR were invaluable imaging tools to evaluate middle ear superstructures, especially in this study to observe presecence of dehiscence and protrusion of tympanic segment fallopian canal as a pre-operative evaluation before stapes surgery.