Presurgical Evaluation of Impacted Mandibular Third Molar Using Digital Fluoroscopy.
(Comperative Study Using Intra Oral Conventional Bisecting Line Angle Technique)

A Thesis Submitted

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Abstract

Digital fluoroscopy system is composed of a conventional fluoroscopy system plus hardware for the digitization, processing, and storage of images. The digital data may be processed in real time or during later review by means of many image processing techniques. These techniques can be used to decrease radiation exposure to the patient and medical staff or enhance the visualization of anatomy by adjustment of displayed contrast and brightness, edge enhancement, image noise reduction, or subtraction techniques. In order to evaluate the impacted mandibular third molar preoperatively there are many radiographic techniques used include conventional and digital techniques ,one of the projections is the lateral oblique projection   which is used in conventional and digital imaging of mandible.

The aim of the present study is to establish the value of lateral oblique in digital fluoroscopy in evaluation of impacted mandibular third molar by comparing the data obtained for the same patient by intra oral conventional bisecting line angle technique   farther   more   check   for   the   accuracy   and   superiority.

The sample is collected from students of College of Dentistry of Anbar University according to certain criteria and is consisted of 20 Iraqi adult males with medium stature aged 20-25 year with class one normal occlusion according to angle classification, every student was with moderate to sever pain in his impacted m3. Digital fluoroscopy and conventional bisecting line angle technique were done for each subject . Measurements were done according to classification systems which include angulations ,relation to the ramus , depth of impaction, nature of overlying tissue   ,root   morphology   (length   ,width   ,shape   and

curvature),relation of impacted mandibular third molar to second molar ,and finally its relation to inferior alveolar canal .

Statistical analysis of data is done by using   SPSS program version 13, for following data:

1- Descriptive statistics (mean, standard deviation) for all classification systems of impacted m3of Iraqi male adults with medium stature (both lateral oblique by digital fluoroscopy and   intra oral conventional bisecting line technique) were obtained.

2- Inferential comparison between the data obtained by lateral oblique by digital fluoroscopy and   intra oral conventional bisecting line   angle technique   using t-test.

Results revealed that there are no significant differences in radiographic assessments of impacted mandibular third molar between lateral oblique by digital fluoroscopy and intra oral conventional bisecting line angle technique for all classification systems of impacted mandibular   third molar   at $p \leq 0.01$.

The values received from this study have significant clinical value. Digital fluoroscopy could be applied as a diagnostic tool in presurgical evaluation of impacted mandibular third molar.