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Radiographic Examination Technique of Ossa Pedis in Cases of Calcaneus Fracture in the Radiology Installation of the University of North Sumatera Hospital

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ABSTRACT

Anselmus, Tatitakum Health Education Academy, Ossa Pedis Radiographic Examination Tccnique in Calcaneus Fracture Cases in Radiology Installation at the University Hospital of North Sumatra, using basic projections namely Antero-posterior and Ap Oblique projections. This type of research uses qualitative research with a case study approach conducted at the University Hospital of North Sumatra in June-July 2019. The population of the study are all patients who conduct ossa pedis examination with fracture cases in Radiology Installation, at llie University of North Sumatra Hospital with a research sample one patient with a fracture calcaneus case using the Antero-posterior basic projection and Ap Oblique. This research data is taken by observing, interviewing the respondent, including two Radiographers and documentation which will then be processed with a data reduction system.
Keywords: *Antero-posterior Position and Ap/ Oblique, Fracture, Ossa Pedis Radiography.*

INTRODUCTION

Since the discovery of X-rays by Wilhelm Conrad Rontgen, a physicist at the University of Wurzburg, Germany in 1895, the development of X-rays combined with the most sophisticated technology has produced equipment that is able to provide more accurate diagnoses for further treatment. Along with the progress of the current era, new cases have emerged that require careful service and this has also been supported by the use of modern equipment. Radiology services as an integrated part of comprehensive health services are mandated by the 1945 Constitution number 23 of 1992 concerning health. Based on this and the increasing need for health services in society, radiology should also provide quality services (Minister of Health Regulation 1014, 2018). This service is an action to establish a diagnosis using ionizing radiation such as X-rays. X-rays are electromagnetic wave emissions that are similar to radio waves, heat, light, and ultraviolet rays, but with very short wavelengths (Rahman, 2005). Fracture or broken bones are conditions where the relationship or unity of bone tissue is broken. Bones have sufficient elasticity with sufficient strength, if the trauma exceeds the elasticity, a fracture occurs. The cause of fracture is chronic and repeated stress trauma or abnormal bone softening. The radiographic techniques used in pedis examination are Antero-posterior (AP) projection and AP Oblique projection. The ossa pedis examination technique that is often used in ossa pedis examination at the North Sumatra Hospital is the

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Antero-posterior and AP oblique projections. In this case, I want to know the benefits of ossa pedis examination with Antero-posterior and AP oblique projections, medial Rotation in the Radiology installation of the University of North Sumatra Hospital to support the diagnosis of fracture cases for the reasons above, so I am interested in raising it in the form of a case report entitled "Ossa Pedis Radiographic Examination Technique in Calcaneus Fracture Cases at the Radiology Installation of the University of North Sumatra Hospital".

METHODS

The type of research used in writing this scientific paper is qualitative research with a case study approach. The subjects of this study were patients with calcaneus fracture cases using Antero-Posterior and AP Oblique projections.

Data Collection Method

1. Observation, with Antero-Posterior and AP Oblique positions at the Radiology Installation of the University of North Sumatra Hospital, Medan.
2. In-depth Interview, with radiographers with calcaneus fracture cases related to the subject of the problem.
3. Documentation including radiograph results, medical records, and radiograph reading results.

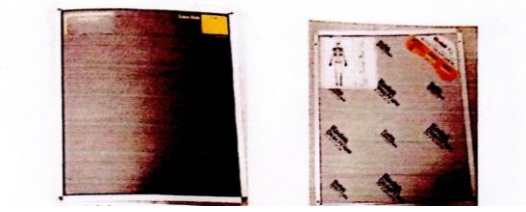
Data Processing and Analysis Method

The analysis begins by processing data obtained through direct observation or observation of the course of the Ossa pedis examination in calcaneus fracture cases with the Antero-Posterior and AP Oblique patient positions at the Radiology Installation of the University of North Sumatra Hospital, Medan. Data is obtained through observation, as well as processing data obtained through in-depth interviews with radiographers. Data obtained from observation, interviews are collected, then data reduction is carried out, then open coding is carried out, namely taking from observations and interviews with respondents. Open coding is carried out to increase the validity of the collected data.

RESULTS AND DISCUSSION

Examination equipment:

a) Imaging reader and imaging console
b) CR cassette size 24x30 cm
c) Control room
d) CR imaging (printer)



Cassette Image size 24 x 30 cm at RS. USU (anterior and posterior views)

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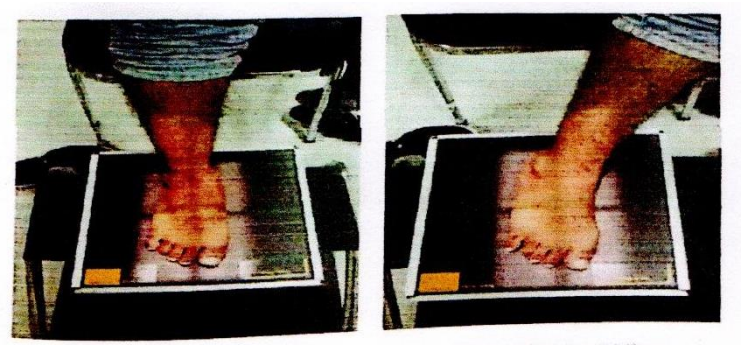
Examination Implementation. Conventional radiographic examination techniques of Ossa Pedis in the Radiology Installation of the University of North Sumatra Hospital include using antero posterior (AP) and AP Oblique projections.

a. Antero Posterior (AP)
   1). Patient position, sitting on a chair provided in the examination room. This is supported by the results of interviews with respondents.
   2) Object position
      - Position the cassette under the patient's feet, make sure the patient's feet are truly true Ap.
      - Make sure the object being examined is not cut off.
   3) Rays
      FFD: 100 cm, CR: Vertical perpendicular, CP: Metatarsal digiti 3.
   4) Cassette: 24 x 30 cm
   5) kV: 57
   6) mAs: 6.12

b. Oblique
   1) Patient position, sitting on a chair provided in the examination room.
   2) Object position: position the cassette under the patient's feet.
   3) Ray
      FFD: 100 cm, CR: vertical perpendicular to the cassette, CP: Metatarsal digiti 3
   4) Cassette: 24 x 30 cm
   5) kV: 52
   6) mAs: 5



AP Projection Image AP Oblique Projection Image

Ossa pedis Examination Techniques with antero posterior and ap Oblique projections at the University of North Sumatra Hospital include: Patient registration, patient preparation, preparation of tools and materials. According to Sjariar Rasad, radiological examination depends on the patient's condition. In patients with severe trauma (unconscious, multiple

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fractures, very severe pain, etc.). According to Hiswara, 2015. Radiation protection that can be done in the examination of the ossa pedis with fracture cases, namely: Towards patients, to personnel, to the general public

CONCLUSION

Radiographic examination technique of ossa pedis in fracture cases at the Radiology Installation of the University of North Sumatra Hospital using basic projections, namely Antero-posterior and Ap. Oblique. The advantage of the Antero-posterior projection is that it does not change the position of the patient or object much so that the patient does not feel pain, on the other hand it does not worsen the condition of the joints. From the oblique position, the fracture can be seen, whether the fracture is directed anteriorly, posteriorly, superiorly or inferiorly. Every time positioning an object with a fracture case, the radiographer must pay attention to the patient's condition and prioritize patient comfort.

REFERENCES

Ballinger, P. 2003. Merill's Atlas of Radiographic Positions and Radiologic Procedures. Tenth edition Volume 1. Missouri: Mosby-Year.

Chesney, M.D., et al. 1990. Radiographic Photography Third edition, London: Nith Edition The United Birmingham.

Hiswara, E. (2015). Smart Book of Radiation Protection and Safety in Hospitals, Jakarta: Batan Press.

Rasad, 2005. Diagnostic Radiology 2nd Edition. Jakarta: Radiology Department, Faculty of Medicine, University of Indonesia

Saputro, S.D. 2014. Diagnostic Radiology. Second Edition. Jakarta: Faculty of Medicine Publishing House, University of Indonesia.