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HIGH-VELOCITY FRACTURE: CASE OF DISPLACED INTERTROCHANTERIC FRACTURE OFFEMUR WITH SPIRAL FRACTURE OF SHAFT OF RIGHT FEMUR

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TITLE: HIGH-VELOCITY FRACTURE: CASE OF DISPLACED INTERTROCHANTERIC FRACTURE OF FEMUR WITH SPIRAL FRACTURE OF SHAFT OF RIGHT FEMUR

CLINICAL HISTORY:

A 27-YEAR-OLD MALE PATIENT WAS ADMITTED AT JSS HOSPITAL WITH A/H/O OF RTA ON 11/6/22 AT 10PM AT K.R NAGAR. NO H/O LOSS OF CONSCIOUSNESS/AMNESIA/VOMITTING/SEIZURES.

NO H/O RHINORRHOEA, OTORRHOEA OR ENT BLEED. HE WAS TAKEN TO A LOCAL HOSPITAL THEN SHIFTED TO KR HOSPITAL FROM WHERE HE WAS REFERRED TO JSS HOSPITAL.

PAST MEDICAL HISTORY: NIL SIGNIFICANT

FAMILY HISTORY: NIL SIGNIFICANT

PERSONAL HISTORY: NIL SIGNIFICANT

EXAMINATION AND INVESTIGATIONS:

GENERAL PHYSICAL EXAMINATION:

27 YEARS OLD MALE PATIENT, MODERATELY BUILT AND NOURISHED, IS ALERT CONSCIOUS COOPERATIVE AND WELL ORIENTED TO TIME PLACE AND PERSON

NO PALLOR, ICTERUS, OEDEMA, CLUBBING, CYANOSIS OR LYMPHADENOPATHY

VITALS

PULSE: 102 BPM

BP: 140/90MMHG

RESPIRATORY RATE: 16CPM

SPO2: 97% AT RA

SYSTEMIC EXAMINATION:

CNS: CONSCIOUS, ORIENTED WITH NO FOCAL NEUROLOGICAL DEFICITS

CVS: S1&S2 HEARD, NO MURMURS

PA: SOFT, NON TENDER, BOWEL SOUNDS HEARD

RS: B/L NORMAL VESICULAR BREATH SOUNDS HEARD, NO ADDED SOUNDS

LOCAL EXAMINATION:

EXAMINATION OF RIGHT LEG

GROSS BONY DEFORMITY OF RIGHT THIGH WITH PAIN AND INABILITY TO BEAR WEIGHT ON RIGHT LOWER LIMB

NO EXTERNAL WOUND OR SKIN DISCOLOURATION

RANGE OF MOVEMENT OF RIGHT HIP AND KNEE PAINFULLY RESTRICTED

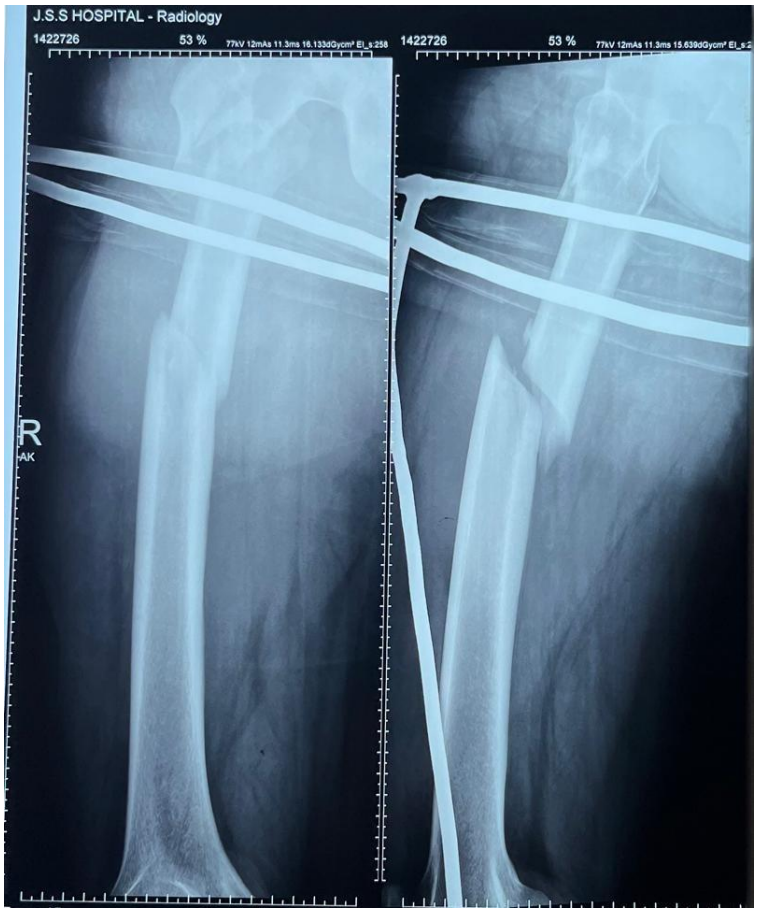
BONY TENDERNESS CREPITUS AND ABNORMAL MOBILITY OVER PROXIMAL FEMUR SHAFT OF FEMUR

ACTIVE ANKLE AND TOE MOVEMENTS PRESENT

NO DISTAL NEUROVASCULAR DEFICITS

SpO2 OF RIGHT LL- 97%

X-RAY FINDINGS



INTERTROCHANTERIC FRACTURE OF RIGHT FEMUR, STABILISED USING A THOMAS SPLINT, THE GROIN RING OF THE THOMAS SPLINT IS APPRECIABLE IN THE XRAY SHOWING THE AP AND LATERAL VIEW OF THE RIGHT FEMUR

SPIRAL FRACTURE OF SHAFT OF RIGHT FEMUR AT JUNCTION OF PROXIMAL AND MID 1/3RD OF SHAFT OF FEMUR

FINAL DIAGNOSIS: INTERTROCHANTERIC FRACTURE OF RIGHT FEMUR AND SPIRAL FRACTURE OF SHAFT OF RIGHT FEMUR AFTER A HIGH VELOCITY INJURY NAMELY ROAD TRAFFIC ACCIDENT.

DISCUSSION:

INTERTROCHANTERIC FRACTURES OCCUR IN THE ELDERLY AND THE YOUNG, WITH PREDOMINANCE IN THE ELDERLY POPULATION, ESPECIALLY THOSE WITH OSTEOPOROSIS WHEREIN EVEN A LOW ENERGY MECHANISM IS SUFFICIENT TO CAUSE THE FRACTURE. THERE IS OBSERVED A FEMALE PREDOMINANCE WITH RATIO BETWEEN 2:1 AND 8:1. NECK OF FEMUR AND INTERTROCHANTERIC FRACTURES IN THE YOUNG ARE MORE LIKELY TO BE A RESULT OF HIGH VELOCITY TRAUMA. [1,2]

XRAYS AP PELVIS, CROSS TABLE LATERAL VIEW AND AP VIEW OF AFFECTED HIP WITH FULL LENGTH XRAY OF AFFECTED FEMUR ARE USEFUL IN PREOPERATIVE PLANNING FOR RESTORING THE CORRECT NECK SHAFT ANGLE.[3]

HERE IN THIS CASE, SURGICAL INTERVENTION IS NECESSARY PREFERABLY USING A DYNAMIC HIP SCREW IN CONJUNCTION WITH AN INTRAMEDULLARY INTERLOCKING FEMORAL NAIL OR A GAMMA NAIL, IN ORDER TO REDUCE AND CORRECT BOTH THE INTERTROCHANTERIC AND THE SPIRAL FRACTURE OF SHAFT OF FEMUR.

CONCLUSION:

INTERTROCHANTERIC FRACTURES MAINLY RESULT FROM HIGH VELOCITY MECHANISMS EXCEPT IN THE ELDERLY AND THOSE WITH OSTEOPOROSIS. MANAGEMENT OF WHICH DEPENDS UPON AGE OF PATIENT, NATURE OF THE FRACTURE, NUMBER OF COMMINUTED FRAGMENTS AND BLOOD LOSS.

ACKNOWLEDGEMENTS: none

REFERENCES:

[1] Attum, B. and Pilson, H., 2022. *Intertrochanteric Femur Fracture*. [online] Ncbi.nlm.nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK493161/#_article-22891_s19_> [Accessed 30 August 2022].

[2] Kani KK, Porrino JA, Mulcahy H, Chew FS. Fragility fractures of the proximal femur: review and update for radiologists. Skeletal Radiol. 2019 Jan;48(1):29-45. [PubMed]

[3] Park JH, Shon HC, Chang JS, Kim CH, Byun SE, Han BR, Kim JW. How can MRI change the treatment strategy in apparently isolated greater trochanteric fracture? Injury. 2018 Apr;49(4):824-828. [PubMed]