

# STUDY OF HEMATOMA CONTAMINATION IN ACUTE FRACTURE NECK OF FEMUR, IN THE ELDERLY-DOES IT CORRELATE WITH EARLY POST OPERATIVE INFECTION?

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## Introduction

Prosthetic joint infection is a devastating complication of arthroplasty, ranging from recurrent surgical procedure to mortality.

The rate of prosthetic joint infection is estimated to be 0.5-2 % and the rate is expected to increase with the rise in number of joint replacements.

Displaced neck of femur fracture occurs more in elderly people, women are two times affected more than men.

Elderly people are associated with comorbidities, this increases their risk to acquire prosthetic joint infection.

Diagnosis of PJI require combination of clinical findings and multiple laboratory test.

Our quest was to identify any relative bacteria contamination in acute fracture neck of femur hematoma and its implications in PJI..

## Aim of the work

The aim of the study was to evaluate if hematoma contamination in acute fracture neck of femur, in the elderly is related with early post-operative joint infection.

## Patients and methods

The study was conducted on 40 patients with neck of femur fracture undergoing hip arthroplasty at EL Hadra University Hospital. Hematoma samples were cultured using conventional cultures and BACT/ALERT.

## Results

Hematoma contamination in neck of femur aspirate using Bact/Alert® was 40%, while that with conventional culture was 5%.

In this study it was found out the rate of early prosthetic joint infection was 12.5% in all the studied 40 patients.

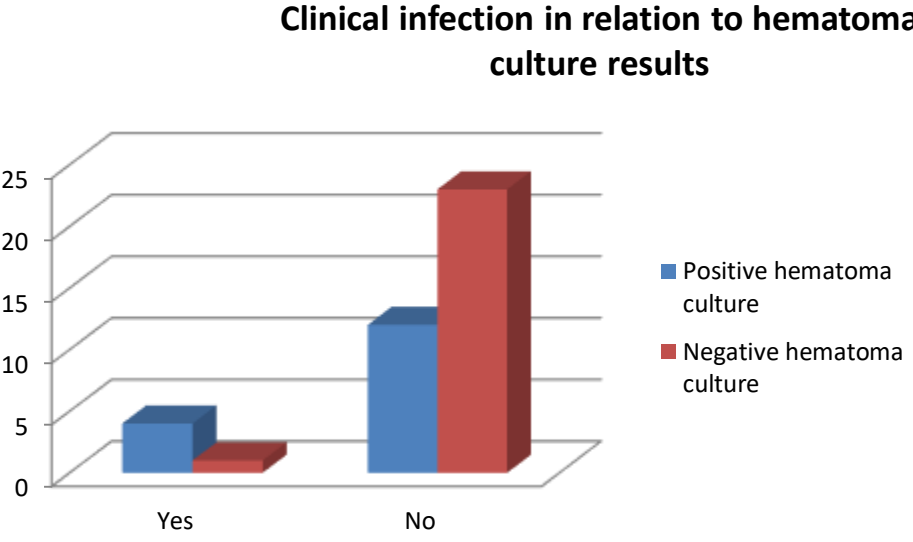
It was found that the rate of prosthetic joint infection among the positive contaminated hematoma sample was 25%, (four out of sixteen infected patients). The rate of prosthetic joint infection was 4.1% in patients with negative hematoma sample. However, this was not statistically significant (P value 0.073).

**Table (1):** Distribution of studied patients in regards to clinical infection and hematoma culture results

Hematoma	Clinical Infection				
	Yes		No		Total
	Number	Percent	Number	Percent	
Positive hematoma culture	4	80	12	34.29	16
Negative hematoma culture	1	20	23	65.71	24
Total	5	100	35	100	40
X <sup>2</sup>	3.810				
P-Value	0.073 N.S.				

N.S. not significant  
X<sup>2</sup> Pearson Chi-square

**Figure (1):** Relation between hematoma culture result and clinical infection



## Conclusion

conclusion is that we do not recommend routine intraoperative hematoma aspiration, there was no statistically significant relation between hematoma contamination and early prosthetic joint infection. Due to increased bacteria sensitivity to prophylactic antibiotic (87.5%) and prolongation of post -operative antibiotic to 7 days, may have decreased the bacteria load required to cause early prosthetic joint infection.

contamination seen in this study can be attributed to diagnostic test used BACT/ALERT, which was 66% sensitive.

Occurrence of early prosthetic joint infection also depends on reaction between host immunity and bacteria load, bacteria sensitivity to prophylactic antibiotics and prolongation of post- operative antibiotics which may reduce the bacteria population.