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Research Article

**INCIDENCE OF HIT (HEPARIN INDUCED THROMBOCYTO-  
PENIA) AFTER THE MYOCARDIUM CURED WITH LOW-  
SLUNG MOLECULAR WEIGHT ANTI-CLOTTING AGAINST  
UN-FRACTIONATED ANTI-CLOTTING**<sup>1</sup>Dr. Faiza Ashraf, <sup>2</sup>Dr. Mujahid Hussain, <sup>3</sup>Dr. Tariq Aziz<sup>1</sup>Allama Iqbal Medical College, Lahore, <sup>2</sup>Services Institute of Medical Sciences, Lahore, <sup>3</sup>Mayo Hospital, Lahore.**Abstract:**

**Objective:** The research was held to find out the regularity of HIT (heparin induced thrombocyte-penia) with un-fractionated anti-clotting against low-slung molecular weight anti-clotting use after the myocardium.

**Study Design:** CCS (Case control study).

**Place and Duration of Study:** This study was held for the duration of two years from June, 2016 to June, 2018 at Punjab Cardiology Hospital, Lahore.

**Method:** Patients who were selected for this research particular low-slungmolecular weight anti-clotting or un-fractionated anti-clotting, which shows with myocardium. Data was recorded on the base of age, gender, diagnosis, history of revelation to un-fractionated anti-clotting, the time of on-set of low platelet count and the type of anti-clotting controlled. The thrombocyte-penia of all selected patients was tested on daily basis. Experimental recording was executed for the opportunity of HIT (heparin induced thrombocyte-penia). The data was evaluated by using SPSS 20.

**Results:** The regularity of anti-clotting in general thrombocyte-penia was 3.2%. In the group of 02 patients showing to UFH and LMWH, there was noted a huge deviation in the regularity of heparin-induced thrombocyte-penia.

**Conclusion:** Our research concludes that the risk of anticoagulant medication is decreased with the use of undivided anti-clotting.

**Key words:** HIT (heparin-induced thrombocyte-penia), less molecular weight anticoagulant, non-fractionated anticoagulant medication.

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**INTRODUCTION:**

An anticoagulant medication is a drug generally used for dealing of various medical situations and used as a thrombopoiesis, venous thromboembolism, containing through aggressive processes and cardiovascular operation, severe coronary diseases, an abnormal and irregular heart rhythm, peripheral occlusive infection, extra-corporeal dialysis and rotation. During study it is noted the even after seventy-five years use of medicine, the record generally used anticoagulant is quiet anti-clotting medication. Due to the increase of veins and arteries medications and the aging of population, the use of anti-clotting remedial preparation rises. It is imaginary that up-to 35% of patients admitted in hospital, the period of their admission in hospital and thrombocyto-penia HIT (heparin-induced thrombocyto-penia) are conveyed every-year, and the necessity for anti-clotting types throughout 589,000 new patients induced by anti-clotting medication. Anti-clotting medication thrombocyto-penia is a general immune medicated infection to some scope with ability for acute thromboembolic difficulties. It is related with the use of non-fractionated anticoagulant medicine and may be well-defined as a decline in megakaryocytes tally soon after or through exposure to this anti-coagulant agent. Heparin-induced thrombocyto-penia is distributed into two types. Anti-clotting is initiated by heparin induced thrombocyte-penia type two or immuno-logically intervened thrombocyte-penia, heparin-induced thrombocyto-penia type-I related with an upper quantity, or immune mediated thrombocyte-penia or HIT by heparin bound anti-bodies. Patients may be low-slung in some patients P.G, 32-43%, however usually there is a comparative reduction in the number of low-platelets [ $<153,000/\text{millimeter cube}$ ], or 54% or more from the start. Thrombotic obstacles

cultivate in almost 22-53 percent of patients. A delay of 6 to 12 days in patients at risk of experience is typical, however there is a rapid fall in platelet count {in Hrs} in patients with latest antiquity of anti-clotting experience.

**METHODOLOGY:**

This research study was held for duration of two years from June, 2015 to June, 2017 at Punjab Cardiology Hospital, Lahore. For this study patients with analysis of severe vein infection and low-molecular weight anti-clotting or fractional heparin [FH] were included. Meanwhile these situations directed to confusion of thrombocyte-penia results, patients with any chronic liver, connective tissue, renal failure and autoimmune infections were not included in this research study. The data were documented in sex, age, earlier in a proforma method, type of anti-clotting, when thrombocyte-penia [if existed] start time, antiquity of revelation to {UFH} and analysis. In the study platelets counts of every patient were mentioned once on daily basis. During the research patients were separated in 2-groups giving to whether they getting LMWH or UFH. For data analyzing Statistical Social Sciences Package (SPSS) version 20 software was used.

**RESULTS:**

In this research study 558 patients were included. Out of which 400 were received UFH while admitted in the hospital and 158 received LMWH. It was assumed that any patient who established thrombocyte-penia {platelet count  $<102,000/\text{cm}$ } throughout or presently after anti-clotting medicine was resolute using (heparin induced thrombocyto-penia and {HIT} possibility using a medical counting system called {4Ts, 4.16, 17 as shown in Table-1.

Clinical Score	Parameters			
	<u>Thrombocyto-penia</u>	<u>Timing of thrombocyte-penia</u>	<u>Thrombosis</u>	<u>Other possibilities of thrombocyto-penia</u>
0	$<34\%$	$< \text{Day } 5$	None	Definite
1	34% - 55%	$> \text{Day } 11$	Recurrent progressive thrombosis	Possible
2	$>55\%$ platelet fall	Day 6 - 11	Proven new thrombus	None

Total score 0-4 low probability; 5-6 Moderate probability, 7-9 High probability of HIT

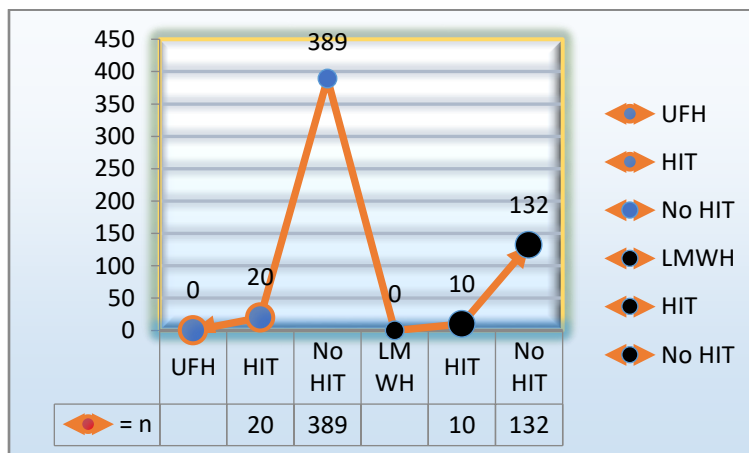
The majority of patients (70%) were male. The characteristics of the patients are shown in Table 2.

**Table No 02: Characteristics of the patients**

Variable	Value
Mean age (years)	
Male	50 ± 08
Female	53 ± 06
Gender	
Male	N = 400
Female	N = 158
Diagnosis	
Unstable angina	N = 258
Myocardial infarction	N = 252
Mean baseline platelet count(× 10 <sup>9</sup> /L)	210 ± 53
HIT in LMWH	N = 2
HIT in UFH	N = 15
Mean time of onset {days} after exposure	8 ± 1
Previous exposure to UFH	N = 2
Decrease n platelet count	
< 32%	N = 1
32 – 53 %	N = 4
>53 %	N = 13
Clinical score	
0-4	N = 1
5 – 7	N = 3
8 – 10	N = 13

3.2 % regularity of HIT {heparin induced thrombocyte-penia} was noted as per medical groove. The statistics degree in the frequency of heparin-induced thrombocyto-penia in two patient crowds was showing to UFH and LMWH {p<0.005} [Table-III].

**Table-III Frequency of heparin induced thrombocyte-penia in patient crowds to UFH versus LMWH.**



**DISCUSSION:**

HIT {Heparin-induced thrombocytopenia} is produced by the body forming antibodies to heparin when it is bound to platelet factor 4 {PF4} –a protein in the blood. These antibodies are extant in nearly all the selected patients getting the medical analysis of the dis-order. Patients with HIT {Heparin-induced thrombocytopenia}, thrombotic risk is 32-Fold greater than regulate inhabitants. Earlier available data show a frequency of 0.6to5.3% HIT in patients cured with heparin after severe is-chemic stroke or critical coronary condition. The outcomes of this research study are measured with already conveyed by other researches. The short coming of this research study is that unable to carry-out the antibody diagnostics due to the non-availability of local laboratories. Therefore, we solitary had to rely on the medical reports. However, our research study revealed that the hazard of increasing HIT {Heparin-induced thrombocytopenia} reduced suggestively with the use of little molecular weight heparin instead of non-fractionated heparin. Enlarged hazard aspects for sudden death of brain and coronary vein infection, surveyed by severe ischemic sudden brain death and severe coronary syndrome-increase the quantity of patients necessitating anticoagulation medicine. Heparin is an agent of anti-clotting generally used in hospital setups. For reducing the occurrence of HIT {Heparin-induced thrombocytopenia}, the usage of LMWH instead of UFH must be stimulated.

**CONCLUSION:**

According to resultant statistics of the current study it was revealed that low-molecular weight heparin is a harmless substitute to non-fractionated heparin as the anti-clotting because it has a less risk of HIT {Heparin-induced thrombocytopenia}.

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