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CLINICAL STUDY OF FEVER WITH THROMBOCYTOPENIA

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ABSTRACT: BACKGROUND: In recent days fever with Thrombocytopenia is a common clinical presentation in the medical wards. This study has been undertaken to know the modes of clinical presentations and possible causes of fever with Thrombocytopenia. **OBJECTIVE:** 1. To determine possible infective etiology for fever with Thrombocytopenia. 2. To correlate clinical features, laboratory studies and infective etiology. **METHODS:** Case record analysis of fever with Thrombocytopenia admitted to medical wards from june-2013 to December- 2013. **RESULTS & CONCLUSION:** Dengue, enteric fever and viral fever were the common causes for the Thrombocytopenia.
KEYWORDS: Fever, Infection, Thrombocytopenia.

INTRODUCTION: In recent days fever with thrombocytopenia is common clinical presentation in the medical wards. Established infective causes like Dengue is well known for fever with thrombocytopenia[1]. There are not many studies elucidating other infections for thrombocytopenia. Only few studies are available for Enteric fever and Malaria. This study has been undertaken to know the modes of clinical presentations and possible causes of fever with thrombocytopenia where in cause of infection could be established like dengue, enteric fever, malaria, leptospria, hepatitis B, and HIV infection. There may be other infective causes wherein the etiology cannot be pointed out because of lack of facilities or unaffordability.

This study might help us to correlate the clinical features and laboratory findings to come to conclusion regarding the possible infective causes for thrombocytopenia and thus diagnosis and management. Nair P S conducted study of fever with thrombocytopenia and concluded that septicemia was the commonest cause.[2]

This study was done on patients who were admitted to Alluri Sita Rama Raju Academy of Medical Sciences, ELLURU. 100 patients of fever with thrombocytopenia were studied. Malaria formed the largest group of patients (45%). Septicemia (21%), Dengue (20%), Enteric fever (10%), Leptospirosis (2%), AML (1%), Megaloblastic anaemia (1%)

A study conducted by Md Ayule et al showed that the commonest presentation was fever (100%) followed by headache (48%) myalgia (66%) and vomiting.[3] Septicemia resulting from gram negative and gram positive organisms is the commonest cause of thrombocytopenia.[1,4] Causes of fever and thrombocytopenia includes viral, bacterial and protozoal.[1,4]

Dengue infection in humans causes a spectrum of illness ranging from in apparent to severe and fatal Dengue haemorrhagic disease.[5] The observations of SCOTT et al suggested that while patients with malaria may be predisposed to the development of thrombocytopenia, a reduced platelet count in some patients may also be due in part to pseudo-thrombocytopenia.[7]

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AIMS AND OBJECTIVES:
1. To determine possible infective etiology for fever with thrombocytopenia.
2. To correlate clinical features, laboratory studies and infective etiology.

MATERIALS AND METHODS: SOURCE OF DATA: Patient admitted to medical wards with history of fever to MIMS hospital, Mandya from June -2013 to December - 2013. A case record analysis was done. Complete haemogram, blood Widal, malarial parasite smear study, dengue serology, was done. Hbs ag, HCV were in selected cases.

METHOD OF COLLECTION OF DATA:
Sample size: 328 cases.
Study design: Case Record Analysis from June -2013 to December -2013.
Sample design: Purposive sampling.
Study duration: June 2013 to December 2013.
Data analyzed using statistical methods. (Chi square test)

INCLUSION CRITERIA: Male and female patients > 14 yrs of age admitted to medical wards with history of fever and thrombocytopenia (PC <1,50,000)

EXCLUSION CRITERIA: Patients with fever with thrombocytopenia other than infective etiology like ITP, drug induced thrombocytopenia, HELLP Syndrome, myeloproliferative diseases, DIC of non-infective etiology (Abruptio placenta, Snake bite), children aged below 14 years are excluded from the study.

STATISTICS:

01. Mean & Standard Deviation of AGE & PC Count in the study subjects

	Male(162)	**Female(166)**	**P-Value**
Age	35.26 + 15.57	37.75 + 15.95	0.153(NS)
PC Count	1.138 + 0.603	1.349 + 0.713	0.004(S)

02. Distribution according age & sex in the study subjects

Age	**Male**	**Female**	**Total**
0 -- 20	27	25	52
21 -- 40	93	83	176
41 -- 60	26	43	69
61 -- 80	16	15	31
Total	**162**	**166**	**328**

Chi square value 4.818 for 3 degrees of freedom P-Value is 0.186(NS)

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03. Distribution according age & Chief complaints in the study subjects

Age	Chief Complaints			Total
	Fever	Bleeding Manifestation	Others	
0 -- 20	13	1	38	52
21 -- 40	65	1	110	176
41 -- 60	28	2	39	69
61 -- 80	10	0	21	31
Total	116	4	208	328

Chi square value 6.511 for 6 degrees of freedom P-Value is 0.384 (NS)

04. Distribution according age & Diagnosis in the study subjects

Age	Diagnosis					Total
	viral fever	viral fever with thrombocytopenia	dengue fever	Enteric Fever	Enteric (Mixed)	
0 -- 20	17	22	5	4	4	52
21 -- 40	57	72	13	22	12	176
41 -- 60	32	28	0	8	1	69
61 -- 80	23	7	0	1	0	31
Total	129	129	18	35	17	328

Chi square value 31.57 for 12 degrees of freedom P-Value is 0.3002 (NS)

05. Distribution according to age & Referral for higher centre in the study subjects

Age	Not referred	Referred	Total
0 -- 20	50	2	52
21 -- 40	156	20	176
41 -- 60	59	10	69
61 -- 80	30	1	31
Total	295	33	328

Chi square value 5.65 for 3 degrees of freedom P-Value is 0.13(NS)

06. Distribution according to age & PC count in the study subjects

Age	< 20000	21000- 40000	41000-60000	61000-80000	>81000	Total
0 -- 20	0	7	5	4	36	52
21 -- 40	4	12	17	27	116	176
41 -- 60	2	4	4	10	49	69
61 -- 80	0	0	1	2	28	31
Total	6	23	27	43	229	328

Chi square value 14.799 for 12 degrees of freedom P-Value is 0.253(NS)

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Frequency Distribution:

01. Age distribution

Age	Frequency	Percentage
0 -- 20	52	15.9
21 -- 40	176	53.7
41 -- 60	69	21.0
61 -- 80	31	9.5
Total	**328**	**100.0**

02. Sex Distribution

Sex	Frequency	Percentage
Female	166	50.6
Male	162	49.4
Total	**328**	**100.0**

03. Place wise distribution of the study subjects

Place	Frequency	Percentage
Channapatna	9	2.7
Kanakapura	1	0.3
Maddur	52	15.9
Malavalli	28	8.5
Mandya	226	68.9
Pandavapura	2	0.6
Ramnagar	2	0.6
SR Patna	4	1.2
TN Pura	4	1.2
Total	**328**	**100.0**

04. Chief Complaints

Chief complaints	Frequency	Percentage
Fever	116	35.4
Bleeding Manifestation	4	1.2
Others	208	63.4
Total	**328**	**100.0**

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05. PC Count

PC Count	Frequency	Percentage
< 20000	6	1.8
21000- 40000	23	7.0
41000-60000	27	8.2
61000-80000	43	13.1
>81000 < 150000	229	69.8
Total	**328**	**100.0**

06. Diagnosis

Diagnosis	Frequency	Percentage
viral fever PC-> 80000	129	39.3
viral fever with thrombocytopenia	129	39.3
Dengue fever	18	5.5
Enteric Fever	35	10.7
Enteric (Mixed)	17	5.2
Total	**328**	**100.0**

07. Referral

Referral	Frequency	Percentage
No	295	89.9
Yes	33	10.1
Total	**328**	**100.0**

Sex * Chief complaints Code

Crosstab

Count

		Chief complaints Code			Total
		1	2	3	1
Sex	0	53	0	113	166
	1	63	4	95	162
Total		**116**	**4**	**208**	**328**

Chi-Square Tests

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	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.372(a)	2	.041
Likelihood Ratio	7.919	2	.019
Linear-by-Linear Association	2.416	1	.120
N of Valid Cases	328		

a 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.98.
Sex * Diagnosis Code

Crosstab
Count

		Diagnosis Code					Total
		1	2	3	4	5	1
Sex	0	77	53	8	18	10	166
	1	52	76	10	17	7	162
Total		129	129	18	35	17	328

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.679(a)	4	.046
Likelihood Ratio	9.733	4	.045
Linear-by-Linear Association	.589	1	.443
N of Valid Cases	328		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.40.
Sex * Referral

Crosstab
Count

		Referral		Total
		0	1	0
Sex	0	154	12	166
	1	141	21	162
Total		295	33	328

Chi-Square Tests

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	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.979(b)	1	.084		
Continuity Correction(a)	2.379	1	.123		
Likelihood Ratio	3.010	1	.083		
Fisher's Exact Test				.099	.061
Linear-by-Linear Association	2.970	1	.085		
N of Valid Cases	328				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.30.

Sex * Pccount code

Crosstab

Count

		Pccount code					Total
		1	2	3	4	5	1
Sex	0	2	5	17	19	123	166
	1	4	18	10	24	106	162
Total		6	23	27	43	229	328

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.626(a)	4	.020
Likelihood Ratio	12.112	4	.017
Linear-by-Linear Association	4.712	1	.030
N of Valid Cases	328		

a 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.96.

DISCUSSION: In the present study, maximum number of patients (176) was in the age group 21-40 yrs and was from nearby places of Mandya. Males and females were affected almost equally.

The diagnosis was viral fever with mild thrombocytopenia in 129 patients, viral fever with moderate thrombocytopenia in 129 patients, (PC-61000-80000) Dengue was confirmed in 18 patients, Enteric fever was present in 35 patients, mixed infection, (enteric fever and malarial parasite positive) was seen in 17 patients.

Thrombocytopenia was present with a platelet count > 81.000< 1.50.000 in 229 patients (69.8%) platelet count was >61000<80000 in 13.1% of patients, >41000 <60000 in 8.2% of patients, >21000 < 40000 in 7% and < 20000 in 1.8% Clinically bleeding manifestations was seen in 4 patients.

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SUMMARY AND CONCLUSION:
1. Viral fever is the commonest cause for thrombocytopenia.
2. Bleeding manifestations are seen when thrombocytopenia in <20000.

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