INTRODUCTION

The onset of thrombocytopenia in an otherwise well child, in the absence of any underlying cause or apparent associated condition is Idiopathic thrombocytopenic purpura (ITP) also known as immune thrombocytopenic purpura and is the commonest cause of thrombocytopenia in childhood with reported Incidence of 4-6 per 100,000 children per year. ITP can be classified into two major forms i.e. acute and chronic ITP. Incidence of ITP is 4-6 per 100,000 children per year. In Pakistan, the diagnosis of ITP may constitute up to 32% of admitted cases of childhood thrombocytopenia. It results from an immune mediated destruction of circulating platelets within the reticuloendothelial system, mainly in the spleen. The exact antigenic target for such antibodies remains undetermined. The reduced platelet count is accompanied by a compensatory increase in megakaryocytes within the bone marrow. ITP is a cause of concern to parents because all of a sudden a child develops bruises / epistaxis and other mucosal bleeding without any warning, mainly affects children between 2 and 10 years of age.

By definition acute ITP is characterized by:
1) Thrombocytopenia; peripheral platelet count < 150,000 × 10^9/L
2) Purpuric rash
3) Normal bone marrow
4) Absence of signs of other identifiable causes of thrombocytopenia.

ITP is usually acute and self-limiting disease in 90% of the children. Most will require only a brief stay in hospital to confirm the diagnosis and assess its severity. There has been much debate about the need to perform a bone marrow aspiration to exclude malignant infiltration or aplasia. If the clinical features
IDIOPATHIC THROMBOCYTOPENIC PURPURA (ITP)

are characteristic, with no abnormality in the blood other than a low platelet count and there is no intention to treat, there is no need to examine the bone marrow. It is acknowledged that acute childhood ITP resolves spontaneously within 6 months, irrespective of drug therapy. Although life threatening risk of intracranial hemorrhage is quite rare but the commonly encountered severe thrombocytopenia and the risk of serious bleeding complications such as gastrointestinal or intracranial hemorrhage compel the physicians to prescribe drug treatment.

Choice of therapy depends upon the clinical situation, number of platelets and sometimes on availability of drugs. If the child has minor purpura and platelet counts are greater than 30,000/mm3 the child should be treated conservatively. Children with platelet counts <20,000/mm3 and significant mucous membrane bleeding have to be treated with specific regimens of glucocorticoids or intravenous immunoglobulins (IVIg). Children who have life-threatening bleeding should be hospitalized. They should receive conventional critical care measures along with treatment of ITP. Appropriate regimens include high dose parenteral glucocorticoid therapy, platelet transfusions and IVIg.

The objective of this study was to find out the frequency of various clinical findings in children with ITP and identify the benefits of doing bone marrow in subset of such cases.

MATERIAL & METHODS
This study was conducted at Hematology/Oncology Department, The Children Hospital & the Institute of Child Health Lahore Pakistan, over a period of one year from April 2008 to March 2009.

A total of 30 patients were included in this study. Any child aged less than 15 years with isolated thrombocytopenia with bleeding from any site was included, patients with aplastic anemia, patients with other causes of thrombocytopenia such as SLE etc and neonatal thrombocytopenia were excluded. All relevant information including detailed history of presentation, history of recent viral infection, family history of bleeding disorder, history of drug intake and positive findings on physical examination and investigations was recorded on pre-designed proforma.

Detailed physical examination was done to look for evidence of bleeding in the skin and mucous membranes. During clinical examination we specifically looked for lymph nodes enlargement, hepato-splenomegaly, weight loss and bony tenderness & bone pains.

Investigations included complete blood count including Hemoglobin, TLC, DLC, ESR, peripheral smear, bleeding time and coagulation profile.

Bone marrow examination was also done in selected cases only.

Patients who were having significant bleeding from the mucous membranes or platelet count less than 20,000/mm3 were managed with pharmacological treatment (oral steroids for 2 weeks, 2 – 4 mg/kg followed by tapering over next week).

RESULTS
Male: Female ratio was 3:2, age ranging from 18 months to 14 years (mean±SD of 5.2± years). There were more cases of age less than 5 years with median age of 5.2 years.

26.6% (n=08) patients were having preceded history of upper respiratory tract infection.

The positive clinical findings were bruises in 30% (n=09) cases; petechiae in 23.3% (n=07) cases; epistaxis in 23.3% (n=07) cases; gum bleeding in 13.3% (n=04) cases and hematuria only in 10% (n=03) cases.
There was no case having organomegaly or lymphadenopathy.

Regarding laboratory findings anemia (<9gm%) was noted in 40% (n=12) patients. On peripheral smear examination this was microctic hypochromic in nature. Bleeding time was prolonged in all patients in line with documented thrombocytopenia i.e platelet count < 150,000. PT/APTT was normal in all 30 patients.

Bone marrow was performed in 03 cases and biopsy findings of all three were consistent with diagnosis of ITP.

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 months to 5 years</td>
<td>15</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>&gt;5 years to 10 years</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>&gt;10 years to 14 years</td>
<td>09</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>18</td>
<td>12</td>
</tr>
</tbody>
</table>

Table-I. Age and sex distribution

<table>
<thead>
<tr>
<th>Positive Clinical Findings</th>
<th>N</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruising tendency</td>
<td>09</td>
<td>30%</td>
</tr>
<tr>
<td>Petechiae</td>
<td>07</td>
<td>23.3%</td>
</tr>
<tr>
<td>Epistaxis</td>
<td>07</td>
<td>23.3%</td>
</tr>
<tr>
<td>Gum bleeding</td>
<td>04</td>
<td>13.3%</td>
</tr>
<tr>
<td>Hematuria</td>
<td>03</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table-II. Positive Clinical Findings among ITP cases

<table>
<thead>
<tr>
<th>Lab Findings</th>
<th>Cutoff / Value</th>
<th>N</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet count</td>
<td>&lt;150,000</td>
<td>30</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>&lt;20,000</td>
<td>03</td>
<td>10%</td>
</tr>
<tr>
<td>Bleeding time</td>
<td>PROLONGED</td>
<td>30</td>
<td>100%</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>&lt;9gm/dl</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>Bone marrow biopsy</td>
<td>Megakaryocytosis</td>
<td>03</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table-III. Positive Laboratory Findings among ITP cases

**DISCUSSION**

Idiopathic thrombocytopenic purpura (ITP) affects children comparatively more in younger age groups. In our study children less than 5 years constitute 50% out of children of the age ranging from 18 months to 16 years and hence this findings persisted in our study as well. Similar results were reported by Ahn & Horstman, who observed a higher incidence of the disease in children aged 2 to 4 years among the children diagnosed with acute ITP.

Male children are affected more as compared to female children. This finding is equally present in our study and similar results were observed in a study by Naima Al-Mulla et al.

The most common clinical presentation in our study was bruises followed by petechiae and epistaxis, similar results were observed in a study conducted at Peshawar in 2004, reported bruises in 40% and epistaxis in 20% of patients as initial presentation of ITP. John D Grainger, et al also observed the similar results in their study.

Findings on peripheral smear examination (microcytic & hypochromic) of the patients having hemoglobin of less than 9gm% was also reported by Musa Kalim et al.

Bleeding time was prolonged in all patients because there was documented thrombocytopenia i.e platelet count < 150,000 in 100% of patients. PT/APTT was normal as expected in all patients, all these findings were also present in a study done by Jan Mohammad et al. Bone marrow was done in 03 patients and the results were consistent with diagnosis of ITP.

In 03 patients having platelet count of < 20,000 and treated with oral steroids for 2 weeks with a dose of 2 – 4 mg/kg followed by tapering over next week showed good response and their platelet count returned to normal.
normal. Similar results were found in the studies done by Aumann V et al \(^1\) and Jan Mohammad et al. \(^2\)

**CONCLUSIONS**

Bruises, Petechiae and epistaxis are the commonest clinical findings of ITP. Platelet counts above 20,000/mm\(^3\) usually do not require any special treatment if asymptomatic. If the clinical features are characteristic, with no abnormality in the blood other than a low platelet count and there is no intention to treat, there is no need to examine the bone marrow.

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**REFERENCES**


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