

Immune Thrombocytopenic Purpura (ITP)

Dr. Sabni's Homoeopathy Clinic & Research Center Pvt. Ltd.

Introduction

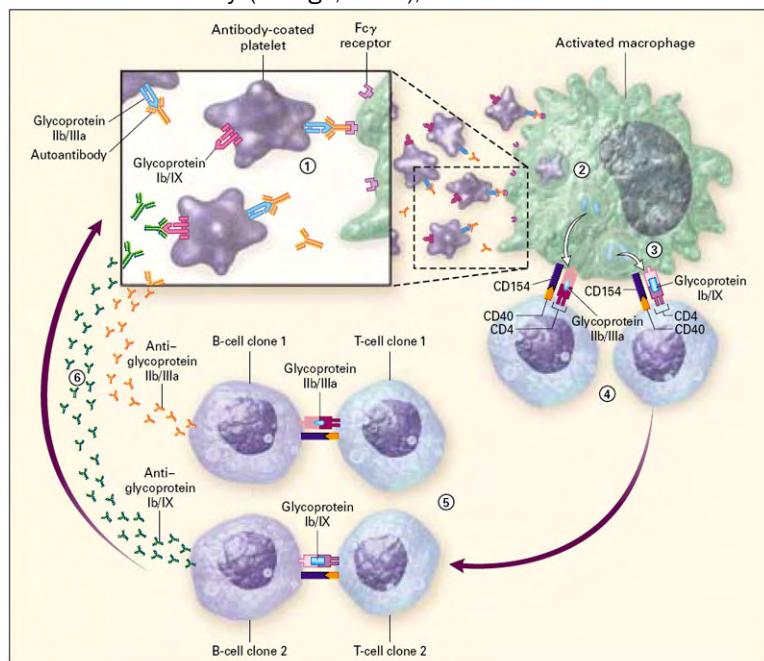
Immune thrombocytopenic purpura is an autoimmune disorder characterized by a low platelet count and mucocutaneous bleeding.

It was long suspected that immune thrombocytopenic purpura is mediated by auto-antibodies, since transient thrombocytopenia occurs in neonates born to affected women, and this suspicion was confirmed on the basis of the development of transient thrombocytopenia in healthy recipients after the passive transfer of plasma, including IgG-rich fractions, from patients with immune thrombocytopenic purpura. Platelets coated with IgG auto-antibodies undergo accelerated clearance through Fc γ receptors that are expressed by tissue macrophages, predominantly in the spleen and liver. A compensatory increase in platelet production occurs in most patients. In others, platelet production appears to be impaired, as a result of either intramedullary destruction of antibody-coated platelets by macrophages or the inhibition of megakaryocytopoiesis. The level of thrombopoietin is not increased, reflecting the presence of the normal megakaryocyte mass.

The destruction of platelets within antigen-presenting cells — presumably, although not necessarily, initiated by antibody — may generate a succession of neoantigens, resulting in sufficient antibody production to cause thrombocytopenia (Figure 1).

Figure 1: Pathogenesis of Epitope Spread in Immune Thrombocytopenic Purpura.

The factors that initiate autoantibody production are unknown. Most patients have antibodies against several platelet-surface glycoproteins at the time the disease becomes clinically evident. Here, glycoprotein IIb/IIIa is recognized by autoantibody (orange, inset), whereas antibodies that recognize the glycoprotein Ib/IX complex have not been generated at this stage (1). Antibody-coated platelets bind to antigen-presenting cells (macrophages or dendritic cells) through Fc receptors and are then internalized and degraded (2). Antigen-presenting cells not only degrade glycoprotein IIb/IIIa (light blue oval), thereby amplifying the initial immune response, but also may generate cryptic epitopes from other platelet glycoproteins (light blue cylinder) (3). Activated antigen-presenting cells (4) express these novel peptides on the cell surface along with costimulatory help (represented in part by the interaction between CD154 and CD40) and the relevant cytokines that facilitate the proliferation of the initiating CD4-positive T-cell clones (T-cell clone 1) and those with additional specificities (T-cell clone 2) (5). B-cell immunoglobulin receptors that recognize additional platelet antigens (B-cell clone 2) are thereby also induced to proliferate and synthesize anti-glycoprotein Ib/IX antibodies (green) in addition to amplifying the production of anti-glycoprotein IIb/IIIa antibodies (orange) by B-cell clone 1 (6).



Introduction...

Naturally occurring antibodies against glycoprotein IIb/IIIa show clonal restriction in light-chain use, and antibodies derived from phage-display libraries show highly constrained VH gene use. Sequencing of the antigen-combining regions of these antibodies suggests that they originate from a limited number of B-cell clones by antigen-driven affinity selection and somatic mutation. Adults with immune thrombocytopenic purpura often have increased numbers of HLA-DR+ T cells, increased numbers of soluble interleukin-2 receptors, and a cytokine profile suggesting the activation of precursor helper T and type 1 helper T cells. In these patients, T cells stimulate the synthesis of antibody after exposure to fragments of glycoprotein IIb/IIIa but not after exposure to native proteins. The derivation of these cryptic epitopes in vivo and the reason for sustained T-cell activation are unknown.

Frequency

Internationally: According to studies in Denmark and England, childhood ITP occurs in approximately 10-40 cases per 1,000,000 per year.

Mortality/Morbidity

- Hemorrhage represents the most serious complication; intracranial hemorrhage is the most significant. The mortality rate from hemorrhage is approximately 1% in children and 5% in adults. In patients with severe thrombocytopenia, predicted 5 year mortality rates from bleeding are significantly raised in patients older than 60 years versus patients under the age of 40 years, 47.8% vs. 2.2%, respectively.
- Older age and previous history of hemorrhage increase the risk of severe bleeding in adult ITP.
- Spontaneous remission occurs in more than 80% of cases in children but is uncommon in adults.

Symptoms

The signs and symptoms of ITP are related to increased bleeding due to low platelets. They include:

- Bruising (purpura): purplish areas on the skin or mucous membranes (such as in the mouth) due to bleeding. The bruises may occur for no apparent reason.
- Petechiae: pinpoint red spots on the skin (typically the legs) that often occur in groups and may look like a rash. The spots are due to bleeding under the skin.
- Bleeding that is hard to stop.
- Bleeding from gums (for example, when dental work is done).
- Nosebleeds.
- Heavy menstrual bleeding in women.
- Blood in the urine.
- Blood in the stool (bowel movement).

Symptomatic bleeding in the brain is very rare but can be life threatening if it occurs.

A low number of platelets causes no symptoms other than increased risk of bleeding. A low number of platelets is not responsible for pain, fatigue, difficulty with concentration, or any other symptoms.

Diagnosis

The diagnosis of immune thrombocytopenic purpura remains one of exclusion. Secondary forms of the disease occur in association with systemic lupus erythematosus, the antiphospholipid syndrome, immunodeficiency states (IgA deficiency and common variable hypogammaglobulinemia), lymphoproliferative disorders (chronic lymphocytic leukemia, large granular lymphocytic leukemia, and lymphoma), infection with human immunodeficiency virus and hepatitis C virus, and therapy with drugs such as heparin and quinidine.

In children less than three months of age, passively acquired autoimmune or alloimmune thrombocytopenia must be excluded. Hereditary nonimmune thrombocytopenia can masquerade as immune thrombocytopenic purpura.

Anticardiolipin and antinuclear antibodies and positive direct antiglobulin tests are not infrequent but are of little diagnostic or therapeutic importance in the absence of clinical disease, although some have reported an increased risk of thrombosis associated with the presence of antiphospholipid antibodies. A few patients have concurrent autoimmune hemolytic anemia, neutropenia, or both, which carry a less favorable prognosis.

The duration of bleeding may help to distinguish acute from chronic immune thrombocytopenic purpura; the absence of systemic symptoms helps clinicians to rule out secondary forms and other diagnoses.

It is important to take a careful history of the use of drugs and other substances that can cause thrombocytopenia. The family history is generally unremarkable in patients with immune thrombocytopenic purpura, and the physical examination generally reveals only evidence of platelet-type bleeding (petechiae, purpura, conjunctival hemorrhage, or other types of mucocutaneous bleeding) (Figure 2). Marked splenomegaly should trigger consideration of an alternative diagnosis; however, a spleen tip is palpable in approximately 10 percent of children. Apart from thrombocytopenia, the blood count should be normal for the patient's age or, if abnormal, readily explained (e.g., by the presence of anemia due to epistaxis). Inspection of a peripheral-blood smear is required to rule out pseudothrombocytopenia, inherited giant platelet syndromes, and other hematologic disorders. Large, immature platelets (megathrombocytes) are often seen. These young reticulated platelets that are detectable by flow cytometry on the basis of their messenger RNA content are presumed to be more metabolically active, offering an explanation for the observation that bleeding in immune thrombocytopenic purpura is typically less pronounced than in states of bone marrow failure at similar platelet counts. Laboratory investigation at the time of presentation should be kept to a minimum if there are no atypical findings.

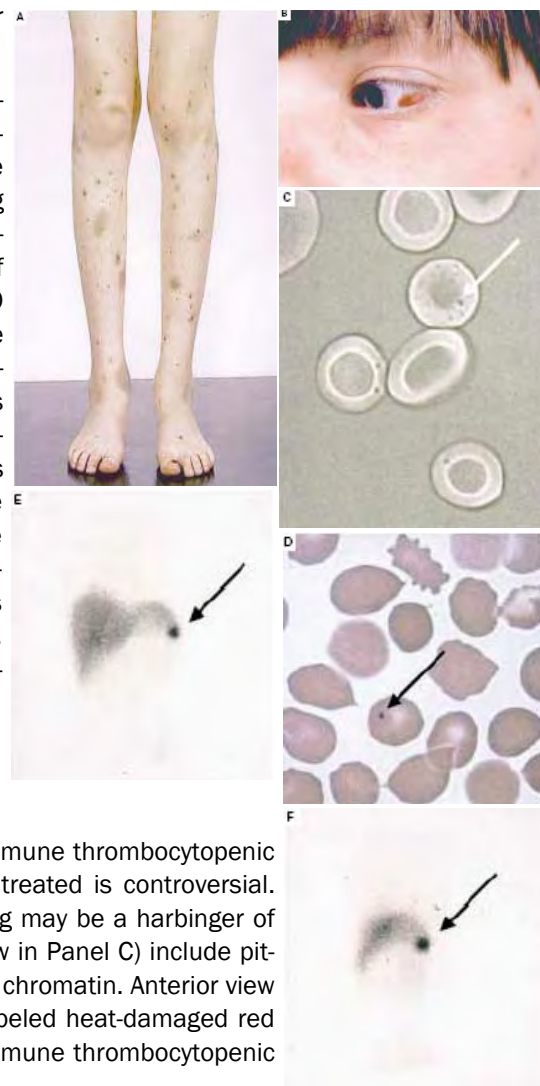


Figure 2: Clinical Features of Immune Thrombocytopenic Purpura.

Panel A shows extensive petechiae and purpura on the legs of a child with immune thrombocytopenic purpura. Whether children who present with only these features should be treated is controversial. Panel B shows a conjunctival hemorrhage. Extensive mucocutaneous bleeding may be a harbinger of internal bleeding. Typical changes after splenectomy in the erythrocytes (arrow in Panel C) include pitting and Howell-Jolly bodies (arrow in Panel D), which are remnants of nuclear chromatin. Anterior view (Panel E) and left lateral view (Panel F) of scans with technetium Tc 99m-labeled heat-damaged red cells show an accessory spleen (arrows) in a patient who had a relapse of immune thrombocytopenic purpura after splenectomy.

Diagnosis...

One of the most contentious issues is the need for bone marrow aspiration. The guidelines of the American Society of Hematology state that a bone marrow examination is not required in adults younger than 60 years of age if the presentation is typical but is appropriate before splenectomy is performed. Our practice is to perform a bone marrow examination in patients over 40 years of age, in patients with atypical features (e.g., those with additional cytopenias), or in patients who do not have a brisk or robust response to therapy. There is consensus, supported by the results of retrospective studies, that bone marrow examination is not necessary in children if management involves observation or intravenous immune globulin. Although it is not mandatory, many pediatric hematologists recommend that an aspiration be performed before starting corticosteroids to rule out the rare case of acute leukemia. A marrow examination is mandatory in patients with atypical cases, such as those with lassitude, protracted fever, bone or joint pain, unexplained macrocytosis, or neutropenia.

Case Report

A boy aged 2 yrs admitted in Wadia Children Hospital, Mumbai on 11.01.2002 for complaint of patchial lesion all over body and was subsequently diagnosed for ITP. The patient was prescribed the IV IgG and Prednisolone with systematic relief.

The patient was admitted to the Wadia Hospital again on 1.5.02 and afterward on 18.6.03 for the same complaint. The patient was kept on conservative medical treatment. The platelet Count on 18.6.2003, 20.6.03 and on 1.11.01 was 19000,145000 and 45000 cmn respectively and the CBC report showed hemoglobin: 10.05, Leukocyte count: 12700, and Lymphocytes: 44.

There was not any improvement in the condition of the patient. The parents of the patient brought the patient to Homoeopathy clinic on 1.7.03.

Based on the clinical reports and symptoms the patient was prescribed the following medicines:

- Phosphorus 30c, one dose thrice in day,
- Prednisolone 30c, one dose daily empty stomach,
- Ginkgo Biloba Q, 5 drops with water thrice in a day and
- Biochemic Combination No.1, twice in day after food

The patient was asked to continue the medicine for three months as initial course of treatment. The patient gave feed-back after 4 months with Platelet report dated 12.11.03 showing normal platelets count and no recurrence of patchy lesions on the body.

Patient was advised to continue the same treatment except Prednisolone 30 for another one month and report back with Platelet report. After one month the Platelet report dated 4.12.03 again showed normal Platelet Count.

At this point it was decided to stop the treatment with instructions the patient to go for Platelet Test every month and report back any indications of relapse of symptoms and changes in platelet count.

The reports of the Platelet Count test taken by the patient after the discontinuation of the treatment dated: 01.03.04, 01.04.04, 01.07.04, 01.09.04, 01.11.04, 02.12.04, 03.01.05, 03.02.05, 03.03.05, and CBC on 09.04.05 showed the results to be normal.

The patient was asked stop getting the test done and till date has not reported any relapse.

Case Report

Indications of Homoeopathic Remedies used in this Case:

Phosphorus:

The picture of Phosphorus is very near to the ITB which include echymosis, purpura hemorrhagia, Wounds bleed very much, even if small, they heal and break up again.

Ginkgo Biloba:

It directly affects the Platelets and increase its count in the Blood.

Prednisolone:

To clear the adverse affects of Prednisolone from the patient's body.

Biochemic Combination No.1:

This universal Biochemic combination number consists of Calcarea Phos, Ferrum Phos, Kali Phos & Natrum Mur and indicted in Anemia.

Conclusion

Well Diagnosed and Well taken case will always do well to the patients where modern system of medicines offers little or no hope.

Bibliography

1. To the parents of patient, for providing all copies of case papers with permission to publish the same.
 2. New England journal of Medicine Volume 346 No.13, March 28, 2002 by Douglas B. Cines, M.D. and Victor S. Blanchette, M.B., B. Chir for ITP figures and information.
-

Bai Jerbai Wadia Hospital For Children

DISCHARGE SUMMARY

Under Dr. AUJ

Ward No. 11

Name of the Patient peepak

Age 2yr

Sex M

Wt. 10kg.

DOA 11/11/01

O.P.D. No. 540147 IP No. MB18744

DOD 8/11/01

M. T. - no

Diagnosis

JTP

Presentation :

2yr mch came c cloaechynosis
& petechiae since 2 day.

History :

Birth History : - FTMP CIAB Bwt An

Immunization H

BCG

OPV

B1

upro dan
Measles

DPT

B2

Milestones : WNL

Dietary : - FD

Socioeconomic : Aurg.

Bldw - oth

OIE 9. cFer

Examination :

General :

Measurements :

Systems :

CVS - S₁ S₂ ⊕

RS - ABBE

DA - ^{clg} sh to oxygen

CNS - WML

eye
vital ⊕

Bp - 90/60 . pettcha ⊕
Wt. 10 kg adenos ⊕.

Ht.

Wt.

3/11/01 BIA
A/ve Aspartate

Bm → cellular marrow
Megakaryocytes seen
No abnormal cells
Erythropoiesis present
Myelopoiesis normal
differentiation

INVESTIGATIONS :

2/11/01

HB - 10.7

WBC - 15400

Plate - 0.11 x 10⁶

N - 30

L - 70

ESR - 3

9/11/01

WBC - 12700

HB - 8.5

Plate - 2.55 x 10⁵

N - 55, L - 45

Blood :

1/11/01

HB - 10.2

Urine : PS for NP - not seen

Stool :

Platelet Ad - ↓ border

Radiological :

2/11/01

A₁ - Control - 11.3 sec

P₁ - 14.2 sec

APTK - Control - 26.3 sec

P₂ - 27.1 sec

3/11/01

Urine - P₁

P₁ - 6

A₁ +

Ca-oxalate 14
seen

2/11/01

PS - Platelet reactivity

Few fragmented RBC
micro, hypo

occ - atypical
erythrocytes

2/11/01

BUN - 10

S.B.I - 0.5

T.Protein

SGOT - 93

- 7.2

SGPT - 77

A/G - 4.2

AlkP04 - 593

U₁ - 842

U₂ - 6.5

S-Ca - 9.2

S-Creat - 0.6

S-urea - 5.6

Rx Given :

— IV IgG 4gm OD x 4 days

Clinical Course :

2y male child brought to do of Ecchymotic patches
 over body & petechiae. Pt was also of
 ITP on BIA report & was started on IV IgG
 which was given for 4 days. Pt responded well to
 ttt & is now fit to be discharged.

Condition at discharge :

GCFair

Afebrile

Vital - Stable

Rx. Advised :syr. Vitcoto/ $\frac{3}{4}$ t4 00.

x 1 month.

Fu in OPD

TO Fu in ~~OPD~~ Handed OPD at a-over
after 1st for

Fu in OPD

CBC for blood
Can

Fu in

Assault
Reg 2 ward 11

Signature of H.P.

BAI JERBAI WADIA HOSPITAL FOR CHILDREN

Parel, Mumbai-400 012.

OUT PATIENT DEPARTMENT

O. P. D. No. **540147**

Date & Time

I. P. D. No. _____

Renewal Date

Physician

Surgeon

Dr. K.S. ^{MON} (1-3) ^{THUR}

Days

1 NOV 2001

1 MAY 2002

LT/102/01/RO

Name Deepak Vinak Bhodkankar Diagnosis and DateSex MaleAddress Shri Bhagwan Age 248in full ganesh R. P. 9 Caste Hd

Patient's Occupation : _____

Notes written by : _____

SIBCMO

Complaints :

No petechiae/lesion all over body :: today morning

Birth History

Immunization

Milestones

Diet

Examination :

No H/o fever

Ht.

No vomition once :: today morning

Wt.

No H/o Malena / Hematemesis

Mt.

Diagnosis :

No H/o bleeding from any site

Plt. count antide report - 45000/cmm

Investigations

DIC-ACF Treatment

Vitamin K

Rf P.A. - 1st

1000

Rf on 10/11/01

Rf on 10/11/01

V.

Dr. Ganapule's

+ Tejas Pathology Laboratory +
&

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Mobile : 9820131395

Surgical Pathology Centre

CONSULTANT PATHOLOGIST

Dr. Makarand R. Ganapule

M. D. (PATH) (MUMBAI) D. P. B.

Laboratory Timings :

Morning : 8 a.m. to 2.30 p.m.

Evening : 6.30 p.m. to 9 p.m.

Sunday : 8 a.m. to 2.30 p.m.

PATIENT'S NAME: **MAST. BHADKAMKAR**

DATE: 1/11/01

REF. BY **DR. S.B. MISTRY**

HEMATOLOGY REPORT

NORMAL

PLATELET COUNT: 45000/ cmm

150000-450000/ cmm

PLATELETS ARE REDUCED ON SMEAR.

G

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Consultant Pathologist

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Note : Home Visit can be arranged for senior citizen

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+ Tejas Pathology Laboratory +
&
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(Resi.) 2456584
Mobile : 9820131395

Laboratory Timings :

From : 8 a.m. to 9 p.m.
Sunday : 8 a.m. to 2.30 p.m.

CONSULTANT PATHOLOGIST

Dr. Makarand R. Ganapule

M. D. (PATH) (MUMBAI) D. P. B.

PATIENT'S NAME : DEEPAK BHANDARKAR

DATE : 18-06-2003

REFERRED BY Dr : PHADNIS

LABNO : M642

TESTS DONE

RESULTS

NORMAL VALUES

PLATELETE COUNT

19000/cmm

150000 – 450000 per cmm

Rh(D) and Blood Group

'O' Rh POSITIVE

G.
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Dr. Makarand R. Ganapule

M. D. (PATH) (MUMBAI) D. P. B.

PATIENT'S NAME : DEEPAK BHANDARKAR

DATE : 18-06-2003

REFERRED BY Dr. : PHADNIS

LAB NO : M642

Complete Blood Count

<u>TEST DONE</u>	<u>OBSERVED VALUE</u>	<u>NORMAL RANGE</u>
Erythrocyte Count	4.36	4.5 – 6 million per c.u. mm.
Haemoglobin	10.5	14 – 17 gms/dl
Leucocyte Count	12700	5000 – 10000 per cu. mm.
<u>R.B.C. Indices</u>		
P.C.V.	29.9	37 – 47 percent
M.C.V.	68.6	78 – 92 femtolitres
M.C.H.	24.1	28 – 32 pico-grams
M.C.H.C.	35.1	32 – 37 percent
<u>W.B.C. differential count</u>		
Neutrophils	52	50 – 70 percent
Eosinophils	2	0 – 6 percent
Lymphocytes	44	20 – 40 percent
Monocytes	2	0 – 10 percent
Abnormalities of Erythrocytes	Hypochromia	
Platelets on smear	Reduced on smear	

G.
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AND SURGICAL PATHOLOGY CENTRE**

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CONSULTANT PATHOLOGIST:

DR. MAKARAND R. GANAPULE
M.D.(Path) D.P.B.

Lab. Timings: Morn. 8 to Even. 9
Sunday :Morn. 8 to After noon 2.30

PATIENT'S NAME : DEEPAK BHADKAMKAR

DATE : 20-06-2003

REFERRED BY Dr : PHADNIS

LABNO : M734

TESTS DONE

RESULTS

NORMAL VALUES

PLATELETE COUNT.

145000/cmm

150000 – 450000 per cmm


Dr. Makarand R. Ganapule.



OMSAI PATHOLOGY LABORATORY

4, Dhiraj Palace, DNC Road, Opp. D.N.C. High School, Dombivli (E) - 421 201.

BHAGYASHREE B. BHANUSHALI
B.Sc. (Chem.) C.M.L.T. (Mumbai)

24 HOURS EMERGENCY SERVICE
☎ : (R) 288 4121

OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhaskar*

Date : 12/11/03.

Ref. By. : *Dr. Sahani.*

Sex : Male.

Lab Code : 0069.

Age : 04 Years.

EXAMINATION OF BLOOD

TEST

RESULT

NORMAL RANGE

PLATELET COUNT :-

3,50,000 /cmm.

1,50,000 - 4,50,000/cmm.

Checked by *[Signature]*

[Signature]
Bhagyashree B. Bhanushali
B.Sc. (Chem) C.M.L.T. (Mumbai)



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OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 04/12/03.

Ref By. : *Dr. Sahani.*

Sex : Male.

Lab Code : 0026.

Age : 4 ½ Years.

EXAMINATION OF BLOOD

<u>TEST</u>	<u>RESULT</u>	<u>NORMAL RANGE</u>
PLATELET COUNT :-	4,25,000 /cmm.	1,50,000 - 4,50,000/cmm.

Checked by:

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B.Sc. (Chem) C.M.L.T. (Mumbai)



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Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 01/03/04.

Ref By. : *Dr. Sahani.*

Sex : Male.

Lab Code : 002..

Physician.

Age : 4 1/2 Years.

EXAMINATION OF BLOOD

TEST

RESULT

NORMAL RANGE

PLATELET COUNT :-

4,25,000 /cmm.

1,50,000 - 4,50,000/cmm.

Checked by:

Bhagyashree B. Bhanushali
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Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 01/04/04.

Ref. By. : *Dr. Sahani.*

Sex : Male.

Lab Code : *105.*

Consulting Physician.

Age : 4 1/2 Years.

EXAMINATION OF BLOOD

TEST

RESULT

NORMAL RANGE

PLATELET COUNT :-

4,36,000 /cmm.

1,50,000 - 4,50,000/cmm.

Checked by:

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B.Sc. (Chem) C.M.L.T. (Mumbai)



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☎ : (R) 288 4121

OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 01/07/04.

Ref. By. : *Dr. Sahani,*
Physician & Surgeon.

Sex : Male.

Lab Code : 005.

Age : 4 1/4 Years.

EXAMINATION OF BLOOD

TEST

RESULT

NORMAL RANGE

PLATELET COUNT :-

4,55,000 /cmm.

1,50,000 -- 4,50,000/cmm.

Checked by: *[Signature]*

[Signature]
Bhagyashree B. Bhanushali
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24 HOURS EMERGENCY SERVICE
☎ : (R) 288 4121

OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 01/09/04.

Ref. By. : *Dr. Sahani. M.B.B.S.*
Family Physician & Surgeon

Sex : Male.

Lab Code : *108.*

Age : 05 Years.

EXAMINATION OF BLOOD

<u>TEST</u>	<u>RESULT</u>	<u>NORMAL RANGE</u>
PLATELET COUNT :-	4,00,000 /cmm.	1,50,000 - 4,50,000/cmm.

checked by:



OMSAI PATHOLOGY LABORATORY

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BHAGYASHREE B. BHANUSHALI
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24 HOURS EMERGENCY SERVICE
☎ : (R) 288 4121

OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkankar*

Date : 01/11/04.

Ref. By. : *Dr. Sahani.*
Physician & Surgeon.

Sex : Male.

Lab Code : 007.

Age : 4 ½ Years.

EXAMINATION OF BLOOD

<u>TEST</u>	<u>RESULT</u>	<u>NORMAL RANGE</u>
PLATELET COUNT	<i>:-</i> 3,95,000 /cmm.	1,50,000 - 4,50,000/cmm.

Checked by

Resh

Bhagyasree B. Bhanushali
B.Sc. (Chem) C.M.L.T. (Mumbai)



OMSAI PATHOLOGY LABORATORY

4, Dhiraj Palace, DNC Road, Opp. D.N.C. High School, Dombivli (E) - 421 201.

BHAGYASHREE B. BHANUSHALI
B.Sc. (Chem.) C.M.L.T. (Mumbai)

24 HOURS EMERGENCY SERVICE
☎ : (R) 288 4121

OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 02/12/94.

Ref. By. : *Dr. Sahani.*
Physician & Surgeon.

Sex : Male.

Lab Code : *511.*

Age : *05 Years.*

EXAMINATION OF BLOOD

<u>TEST</u>	<u>RESULT</u>	<u>NORMAL RANGE</u>
PLATELET COUNT :-	3,68,000 /cmm.	1,50,000 - 4,50,000/cmm.

Checked by

Bhagyashree B. Bhanushali.
B.Sc. (Chem) C.M.L.T. (Mumbai)



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OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 03/01/05.

Ref. By. : *Dr. Sahani.*
Physician & Surgeon.

Sex : Male.

Lab Code : 213.

Age : 05 Years.

EXAMINATION OF BLOOD

TEST

RESULT

NORMAL RANGE

PLATELET COUNT :-

3,75,000 /cmm.

1,50,000 - 4,50,000/cmm.

Checked by:

Resh

Bhagyasree B. Bhanushali
B.Sc. (Chem.) C.M.L.T. (Mumbai)



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BHAGYASHREE B. BHANUSHALI
B.Sc. (Chem.) C.M.L.T. (Mumbai)

24 HOURS EMERGENCY SERVICE
☎ : (R) 288 4121 M. : 9820133014

OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 03/02/05.

Ref. By. : *Dr. Saffari.*
Physician & Surgeon.

Sex : Male.

Lab Code : 120.

Age : 4 1/2 Years.

EXAMINATION OF BLOOD

<u>TEST</u>	<u>RESULT</u>	<u>NORMAL RANGE</u>
PLATELET COUNT	:- 3,46,000 /cmm.	1,50,000 - 4,50,000/cmm.

Checked by: *[Signature]*

[Signature]
Bhagyashree B. Bhanushali
B.Sc. (Chem.) C.M.L.T. (Mumbai)

Authorised Centre for : Thyrocare, Ranbaxy (SRL), Metropolis



OMSAI PATHOLOGY LABORATORY

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BHAGYASHREE B. BHANUSHALI
B.Sc. (Chem.) C.M.L.T. (Mumbai)

24 HOURS EMERGENCY SERVICE
☎ : (R) 288 4121 M. : 9820133014

OPEN ON SUNDAYS & HOL'DAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhiadkamgar.*

Date : 03/03/05.

Ref. By : *Dr. Sahani.*
Physician & Surgeon.

Sex : Male.

Lab Code : 222.

Age : 05 Years.

EXAMINATION OF BLOOD

<u>TEST</u>	<u>RESULT</u>	<u>NORMAL RANGE</u>
PLATELET COUNT	:- 3,95,000 /cmm.	1,50,000 - 4,50,000/cmm.

Checked by *[Signature]*

[Signature]
Bhagyashree B. Bhanushali
B.Sc. (Chem.) C.M.L.T. (Mumbai)

Authorised Centre for : Thyrocare, Ranbaxy (SRL), Metropolis



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B.Sc. (Chem.) C.M.L.T. (Mumbai)

24 HOURS EMERGENCY SERVICE
☎ : (R) 288 4121 M. : 9820133014

OPEN ON SUNDAYS & HOLIDAYS
Time : 7.00 a.m. to 10.00 p.m.

Patient's Name : *Master. Deepak Bhadkamkar.*

Date : 09/04/05.

Ref. By. : *Dr. Sahani.*

Sex : Male.

Lab Code : *DNC/137.*

Age : 05 Years.

COMPLETE BLOOD COUNT (CBC).

TEST	PATIENT'S VALUE	NORMAL RANGE
Haemoglobin	12.0 gm %.	Female.: 12-16 gm % Male: 14-18 gm %
Erythrocytes (total RBC'S)	3.9 millions / cmm	Female.: 4.0-5.2 millions/cmm Male: 4.2- 5.5 millions / cmm.
Leucocytes (total WBC'S)	5,900 / cmm	4,000-11,000 / cmm
DIFFERENTIAL WBC'S		
Neutrophils	60 %	40-70 %
Lymphocytes	40 %	20-40 %
Eosinophils	00 %	01-06 %
Monocytes	00 %	02-06 %
Basophiles	00 %	00-01 %
Morphology of RBC'S	HYPOCHROMIC(MILD).	
Malarial Parasites	---	
Platelets	ADEQUATE ON PERIPHERAL SMEAR.	
Platelet Count	---	1,50,000 - 4,50,000/cmm.
Eritho.Sedi.Rate (ESR)	---	Female :- 0-20 mm / hr Male :- 0 - 15 mm / hr At the end of 1 hr Method : Westergreen.

Checked by: *[Signature]*

[Signature]
Bhagyashree B. Bhanushali
B.Sc. (Chem.) C.M.L.T. (Mumbai)

Authorized Center for : *[illegible]*