RESULTS

High filarial positive cases were found in people living in weavers colonies. The housing pattern, living standards, socio-economical conditions, poor sanitation and lack of proper health education might be playing a significant role for transmission of filariasis. Man mosquito contact is favored by housing pattern in this surveyed area.

Ward-wise survey for population density:

The survey area covers 30,835 (males 15,127; females 15,708) population. In ward-1 the total density of the population was 1422 (males 694; females 728). In ward-2 the total density of the population was 1410 (males 678; females 732). In ward-3 the total density of the population was 1450 (males 677; females 773). In ward-4 the total density of the population was 1446 (males 698; females 748). In ward-5 the total density of the population was 1386 (males 681; females 705). In ward-6 the total density of the population was 1453 (males 693; females 760). In ward-7 the total density of the population was 1464 (males 736; females 728). In ward-8 the total density of the population was 1281 (males 647; females 634). In ward-9 the total density of the population was 1445 (males 729; females 716). In ward-10 the total density of the population was 1249 (males 621; females 628). In ward-11 the total density of the population was 1243 (males 632; females 611). In ward-12 the total density of the population was 1350 (males 685; females 665). In ward-13 the total density of the population was 1224 (males 606; females 618). In ward-14 the total density of the population was 1248 (males 604; females 644). In ward-15 the total density of the population was 1221 (males 597; females 624). In ward-16 the total density of the population was 1361 (males 676; females 685). In ward-17 the total density of the
population was 1353 (males 672; females 681). In ward-18 the total density of the population was 1408 (males 662; females 746). In ward-19 the total density of the population was 1256 (males 605; females 651). In ward-20 the total density of the population was 1226 (males 578; females 648). In ward-21 the total density of the population was 1397 (males 707; females 690). In ward-22 the total density of the population was 1274 (males 635; females 639). In ward-23 the total density of the population was 1268 (males 614; females 654).

The highest population density was found in ward 7 (1,464) (males, 736; females, 728). The lowest population density was found in ward 15 (1,221) (males, 597; females, 624) (Table 1).

**Analysis of blood samples for filarial positive cases:**

Blood smears were collected for knowing the incidence of filariasis in the age group of 2-5 years, 6-14 years and 15 years and above according to WHO norms. In the age group of 2-5 years, 367 fever cases were found in males (out of 15,127 males in 23 wards) and 303 cases in females (out of 15,708 females in 23 wards). In the age group of 6-14 years, 536 fever cases were found in males (out of 15,127 males in 23 wards) and 466 cases in females (out of 15,708 females in 23 wards). In the age group of 15 years and above, 887 fever cases were found in males (out of 15,127 males in 23 wards) and 733 cases in females (out of 15,708 females in 23 wards) (Table 1 and 2).

Blood samples (3,292) were collected under daily surveillance from the patients suffering from fever.

The highest fever incidence was observed in the age group of 15 years and above in males (887) and females (733); the lowest fever incidence was found in the age group
of 2-5 years in males (367) and females (303). The incidence of fever cases in the age group of 6-14 years were 536 in males and 466 in females (Table 2).

The prevalence of filarial positive cases in the study area is shown in Table 3. No filarial positive cases were found in age group of 2-5 years and 6-14 years in all the 23 wards of study area. In the age group of 15 years and above, 163 *W. bancrofti* positive cases (males 65; females 98) were observed during the study period. The incidence of filarial cases in ward 1 was 1 in males and 2 in females. In ward 2 and 3, the incidence of filarial cases was 2 in males and 2 in females. In ward 4 and 5, the filarial incidence was 1 in males and 2 in females. In ward 6, the incidences of filarial cases was 2 in males and 2 in females. In ward 7, the incidence of filarial cases was 3 in males and 5 in females. In ward 8, the incidence of filarial cases was 2 in males 3 in females. In ward 9, the incidence of filarial cases was 1 in males and 2 in females. In ward 10, the incidence of filarial cases was 2 in males and 2 in females. In ward 11, the incidence of filarial cases was 4 in males and 2 in females. In ward 12, the incidence of filarial cases was 1 in males 2 in females. In ward 13, the incidence of filarial cases was 2 in males and 3 in females. In ward 14, the incidence of filarial cases was 3 in males and 3 in females. In ward 15, the incidence of filarial cases was 2 in males and 2 in females. In ward 16, the incidence of filarial cases was 1 in males and 2 in females. In ward 17, the incidence of filarial cases was 3 in males and 2 in females.

High density of filarial positive cases was notified in ward 18 showing 22 filarial cases (males 8; females 14). In ward 19, 17 positives cases were observed (males 6; females 11), in ward 20, 16 cases were found (males 6; females 10), in ward 21, 12
(males 5; females 7) positive cases and in ward 22, 15 positive cases (males 6; females 9) and in ward 23, 8 positive case (males 1; females 7) were found (Table 3).

The incidence of filariasis (in different seasons) in different localities (July 2010 to June 2011) is shown in Table 4. The incidence of positive cases is explained considering all the 23 wards. 11 positive cases (males 4; females 7) were observed in July 2010. The highest incidence of filarial positive cases (41-males 17; females 24) was found to be maximum in the month of October 2010. In August 2010, 26 cases (males 12; females 14) and in September 2010, 26 cases (males 9; females 17) were found. In November 2010, 15 cases (males 6; females 9) and in December 2010, 11 positives (males 4; females 7) cases were found. In January 2011, 8 cases (males 4; females 4), in February 2011, 6 cases (males 2; females 4), in March 2011, 6 cases (males 3; females 3), in April 2011, 4 cases (males 1; females 3) and in June 2011, 9 cases (males 3; females 6) were observed. During the transmission period of filariasis, there was no disease prevalence (in May 2011) in all the 23 wards of study area in Pedana.

Prevalence of *W. bancrofti* and *B. malayi* was examined (during July 2010 to June 2011) in the blood samples collected from the positive filarial cases (in the study area of Pedana population). 3,292 blood samples were collected from fever cases and smears were prepared. **Out of 3,292 fever cases, 163 filarial *W. bancrofti* positive cases were found and there was no prevalence of *B. malayi* filarial cases.** The number of *W. bancrofti* positive cases was 3, 4, 4, 3, 3, 4, 8, 5, 3, 4, 6, 3, 5, 6, 4, 3, 5, 17, 16, 12, 15 and 8 in ward 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22 and 23.
respectively. The highest number (22) of cases was found in ward 18. The lowest number of (3) of filarial cases was found in ward 1, 4, 5, 9, 12 and 16 (Table 5).

The total number of microfilariae /slide (W. bancrofti) recorded in positive filarial patients in Pedana is shown in Table 6. Out of 163 positive patients, 128 samples (60 µm thick smears) were observed for W. bancrofti species. In these 128 slides, the highest number of microfilariae (12) was observed in 13 patients (males 8; females 5). Eleven microfilariae per slide were observed in 10 patients (males 5; females 5) and 10 microfilariae per slide were found in 11 patients (males 3; females 8). The lowest number of microfilaria (4) per slide were found in 3 patients (males 2; females 1) and 5 microfilariae per slide were observed in 13 patients (males 4; females 9). Among 163 filarial positive patients, 45 (both males, 19 and females, 26) patients were selected randomly for the investigation of haematological and serological observations based on the signs and symptoms of the effected organs in the condition of occult (11), acute (18) and chronic (16) disease manifestations.
Clinical manifestations and analysis of blood samples:

The filarial positive blood samples with mixed infections, co-infections and haematological changes were analysed for Hb, RBC, WBC, PLT, lymphocytes, monocytes, polymorphs, eosinophils, screened for serum AST, ALT, ALP, serum total protein, serum total albumin, serum total globulin, Albumin/Globulin Ratio; blood was also screened to estimate the values of total serum immunoglobulins - IgA, IgG and IgM before treatment and after treatment. Blood was also screened for counts of CD3, CD4, CD8 and CD4/CD8 ratios before and after treatment in filarial positive patients. Lymphocyte subsets in filariasis include B lymphocytes (CD19), T lymphocytes (CD3), helper/inducer T lymphocytes (CD4) or suppressor/cytotoxic T lymphocytes (CD8).

The effected organs and the haematological findings in 45 patients are shown in table 7 to 13. In the patient 1, (26 years old male) both legs were affected and found in chronic filarial manifestation. The Hb. concentration was 11.6 gms/dl, the RBC- 4.84 $10^6$/ mm$^3$, WBC-4.8 $10^3$/mm$^3$, PLT-2.83 $10^3$/mm$^3$, the lymphocytes 52%, monocytes 2%, polymorphs 38%, eosinophils 8%. The estimated value of serum AST was 11 U/L, ALT 14 U/L, ALP 119 U/L, the serum total protein 6.9 gm/dl, total albumin 4.2 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.55. Before treatment the serum immunoglobulin IgA was 7.58 g/l, IgG 20.59 g/l, IgM 4.47 g/l; after treatment the total Serum IgA was 4.96 g/l, IgG 16.27 g/l and IgM 2.41 g/l. The lymphocyte counts were 1142 cells/µl, CD3 were1167 cells/µl, CD4 were 483 cells/µl, CD8 were 272 cells/µl and the CD4/CD8 ratio was 1.77 in blood before treatment. The lymphocyte counts were 1263 cells/µl, CD3 were 1287 cells/µl, CD4 were 607 cells/µl, CD8 were 308 cells/µl and CD4/CD8 ratio was 1.97 cells/µl in blood after treatment.
The normal range (in a healthy person) of the haemoglobin in males was 14.0-18.0 gms/dil. and 12.0-16.0 gms/dil. in females. In healthy adults, RBC were 3.5-5.5 \( \times 10^6 \) milli/cumm., WBC were 5.0-10.0 \( \times 10^3 \) cells/cumm., platelets were 1.5-4.0 \( \times 10^3 \) Lakhs/cumm., the percentage of lymphocytes 20-40, monocytes 0-10, polymorphs 40-70 and eosinophils 0-6. The estimated values of serum AST was 05-35 U/L, ALT was 05-45 U/L, ALP was <200 U/L, total protein was 6.0-8.0 gm/dl, albumin was 3.5-5.5 gm/dl, and globulins was 2.5-4.0 gm/dl. The albumin globulin ratio was less than 5 (calculated method). The level of total serum immunoglobulin IgA was 0.7-4.0 g/l, IgG was 6.94-16.20 g/l and IgM was 0.40-2.30 g/l. The range of lymphocyte count was 3500-11000 cells/µl, CD3 count 1390-3510 cells/µl, CD4 count 400-3000 cells/ µl, CD8 count 400-3000 cells/µl and CD4/CD8 Ratio was 0.6-2.8.

In the patient 2, (26 years old female) right leg was affected and found in acute filarial manifestation. The Hb. concentration was 9.3 gms/dil, RBC 4.30 \( \times 10^6 \) mm\(^3\), WBC 7.2 \( \times 10^3 \)/mm\(^3\), PLT 1.40 \( \times 10^3 \)/mm\(^3\), the lymphocytes 47%, monocytes 6%, polymorphs 41% and eosinophils 6%. The estimated value of serum AST was 12 U/L, ALT 16 U/L, ALP 127 U/L, the serum total protein 7.0 gm/dl, total albumin 4.3 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be1.59. Before treatment the serum immunoglobulin IgA was 5.96 g/l, IgG 17.82 g/l, IgM 2.82 g/l; after treatment the total serum IgA was 3.28 g/l, IgG 9.44 g/l and IgM 1.29 g/l. The lymphocyte counts were 2733 cells/µl, CD3 were1579 cells/µl, CD4 were 692 cells/µl, CD8 were 391 cells/µl and the CD4/CD8 ratio was 1.76 in blood before treatment. The lymphocyte counts 2,793 cells/µl, CD3 were 1,599 cells/µl, CD4 were 709 cells/µl, CD8 were 408 cells/µl and CD4/CD8 ratio was 1.73 cells/µl in blood after treatment.
In the patient 3, (28 years old male) left leg was affected and found in chronic filarial manifestation. The Hb. concentration was 10.0 gms/dil, RBC $3.53 \times 10^6/\text{mm}^3$, WBC $9.2 \times 10^3/\text{mm}^3$, PLT $3.02 \times 10^3/\text{mm}^3$, the lymphocytes 49%, monocytes 8%, polymorphs 33% and eosinophils 10%. The estimated value of serum AST was 23 U/L, ALT 18 U/L, ALP 96 U/L, the serum total protein 6.8 gm/dl, total albumin 4.2 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.61. Before treatment the concentration of serum immunoglobulin, IgA was 7.84 g/l, IgG 20.63 g/l and IgM 4.51 g/l; after treatment the total serum IgA was 5.11 g/l, IgG 16.30 g/l and IgM 2.43 g/l. The lymphocyte counts were 2314 cells/µl, CD3 were 1565 cells/µl, CD4 were 740 cells/µl, CD8 were 371 cells/µl and the CD4/CD8 ratio was 1.99 in blood before treatment. The lymphocyte counts 2324 cells/µl, CD3 were 1585 cells/µl, CD4 were 762 cells/µl, CD8 were 519 cells/µl and CD4/CD8 ratio was 1.46 cells/µl in blood after treatment.

In the patient 4, (30 years old female) left leg was affected and found in acute filarial manifestation. The Hb. concentration was 10.2 gms/dil, RBC $4.23 \times 10^6/\text{mm}^3$, WBC $7.2 \times 10^3/\text{mm}^3$, PLT $1.90 \times 10^3/\text{mm}^3$, the lymphocytes 46%, monocytes 5%, polymorphs 42% and eosinophils 7%. The estimated value of serum AST was 19 U/L, ALT 12 U/L, ALP 68 U/L, the serum total protein 4.3 gm/dl, total albumin 2.5 gm/dl, total globulin 1.7 gm/dl and the Albumin Globulin ratio was found to be 1.45. Before treatment the serum immunoglobulin IgA was 6.12 g/l, IgG 18.21 g/l, IgM 3.41 g/l; after treatment the total serum IgA was 3.47 g/l, IgG 9.51 g/l and IgM 1.86 g/l. The lymphocyte counts were 2,448 cells/µl, CD3 were 1664 cells/µl, CD4 were 710 cells/µl, CD8 were 347 cells/µl and the CD4/CD8 ratio was 2.04 in blood before treatment. The
lymphocyte counts 2,452 cells/µl, CD3 were 1,673 cells/µl, CD4 were 739 cells/µl, CD8 were 378 cells/µl and CD4/CD8 ratio was 1.95 cells/µl in blood after treatment.

In the patient 5, (32 years old female) left leg was affected and found in occult filarial manifestation. The Hb. concentration was 9.2 gms/dil, RBC 4.46 $10^6$/ mm$^3$, WBC $10.6 \times 10^3$/mm$^3$, PLT $2.62 \times 10^3$/mm$^3$, the lymphocytes 42%, monocytes 7%, polymorphs and 45%, eosinophils 6%. The estimated value of serum AST was 26 U/L, ALT 34 U/L, ALP 117 U/L, the serum total protein 6.9 gm/dl, total albumin 4.2 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.55. Before treatment the serum immunoglobulin IgA was 4.29 g/l, IgG 16.22 g/l, IgM 2.57 g/l; after treatment the total Serum IgA was 2.16 g/l, IgG 7.92 g/l and IgM 1.13 g/l. The lymphocyte counts were 3562 cells/µl, CD3 were 1921 cells/µl, CD4 were 601 cells/µl, CD8 were 351 cells/µl and the CD4/CD8 ratio was 1.71 in blood before treatment. The lymphocyte counts 3,528 cells/µl, CD3 were 1,909 cells/µl, CD4 were 609 cells/µl, CD8 were 368 cells/µl and CD4/CD8 ratio was 1.65 cells/µl in blood after treatment.

In the patient 6, (33 years old male) right leg was affected and found in occult filarial manifestation. The Hb. concentration was 11.2 gms/dil, RBC 4.61 $10^6$/ mm$^3$, WBC $8.5 \times 10^3$/mm$^3$, PLT $1.38 \times 10^3$/mm$^3$, the lymphocytes 39%, monocytes 6%, polymorphs 50% and eosinophils 5%. The estimated value of serum AST was 18 U/L, ALT 13 U/L, ALP 98 U/L, the serum total protein 7.1 gm/dl, total albumin 4.0 gm/dl, total globulin 3.1 gm/dl and the Albumin Globulin ratio was found to be 1.29. Before treatment the serum immunoglobulin IgA was 4.12 g/l, IgG 16.19 g/l, IgM 2.36 g/l; after treatment the total serum IgA was 2.40 g/l, IgG 7.85 g/l and IgM 0.98 g/l. The
lymphocyte counts were 2,445 cells/µl, CD3 were 1,358 cells/µl, CD4 were 643 cells/µl, CD8 were 351 cells/µl and the CD4/CD8 ratio was 1.83 in blood before treatment. The lymphocyte counts 2,256 cells/µl, CD3 were 1,368 cells/µl, CD4 were 661 cells/µl, CD8 were 357 cells/µl and CD4/CD8 ratio was 1.85 cells/µl in blood after treatment.

In the patient 7, (33 years old female) left leg was affected and found in occult filarial manifestation. The Hb. concentration was 11.6 gms/dil, RBC 4.47 $10^6$/ mm$^3$, WBC 5.5 $10^3$/mm$^3$, PLT 1.55 $10^3$/mm$^3$, the lymphocytes 43%, monocytes 6%, polymorphs 46% and eosinophils 5%. The estimated value of serum AST was 24 U/L, ALT 37 U/L, ALP 156 U/L, the serum total protein 7.0 gm/dl, total albumin 4.2 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.5. Before treatment the serum immunoglobulin IgA was 4.3 g/l, IgG 16.17 g/l, IgM 2.34 g/l; after treatment the total serum IgA was 1.88 g/l, IgG 7.28 g/l and IgM 0.94 g/l. The lymphocyte counts were 1927 cells/µl, CD3 were 1,269 cells/µl, CD4 were 619 cells/µl, CD8 were 387 cells/µl and the CD4/CD8 ratio was 1.59 in blood before treatment. The lymphocyte counts 1948 cells/µl, CD3 were 1,289 cells/µl, CD4 were 632 cells/µl, CD8 were 411 cells/µl and CD4/CD8 ratio was 1.53 cells/µl in blood after treatment.

In the patient 8, (34 years old female) both legs were affected and found in acute filarial manifestation (Plate 4, Fig.6). The Hb. concentration was 10.4 gms/dil, RBC 4.24 $10^6$/ mm$^3$, WBC 7.3 $10^3$/mm$^3$, PLT 1.88 $10^3$/mm$^3$, the lymphocytes 42%, monocytes 4%, polymorphs 49% and eosinophils 5%. The estimated value of serum AST was 21 U/L, ALT 32 U/L, ALP 141 U/L, the serum total protein 6.8 gm/dl, total albumin 4.2 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.61. Before
treatment the serum immunoglobulin IgA was 5.82 g/l, IgG 18.47 g/l, IgM 3.22 g/l; after treatment the total serum IgA was 2.86 g/l, IgG 9.77 g/l and IgM 1.62 g/l. The lymphocyte counts were 1917 cells/µl, CD3 were1279 cells/µl, CD4 were 623 cells/µl, CD8 were 357 cells/µl and the CD4/CD8 ratio was 1.74 in blood before treatment. The lymphocyte counts 1,928 cells/µl, CD3 were 1,299 cells/µl, CD4 were 609 cells/µl, CD8 were 372 cells/µl and CD4/CD8 ratio was 1.63 cells/µl in blood after treatment.

In the patient 9, (35 years old female) left leg was affected and found in occult filarial manifestation. The Hb. concentration was 10.2 gms/dl, RBC 4.56 10⁶/mm³, WBC 7.9 10³/mm³, PLT 2.50 10³/mm³, the lymphocytes 48%, monocytes 3%, polymorphs 43% and eosinophils 6%. The estimated value of serum AST was 26 U/L, ALT 34 U/L, ALP 117 U/L, the serum total protein 6.9 gm/dl, total albumin 4.2 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be1.55. Before treatment the serum immunoglobulin IgA was 4.22 g/l, IgG 16.21 g/l, IgM 2.84 g/l; after treatment the total serum IgA was 1.92. g/l, IgG 8.14 g/l and IgM 1.31 g/l. The lymphocyte counts were 2311 cells/µl, CD3 were1289 cells/µl, CD4 were 1048 cells/µl, CD8 were 629 cells/µl and the CD4/CD8 ratio was 1.66 in blood before treatment. The lymphocyte counts 2,326 cells/µl, CD3 were 1,307 cells/µl, CD4 were 1,068 cells/µl, CD8 were 658 cells/µl and CD4/CD8 ratio was 1.63 cells/µl in blood after treatment.

In the patient 10, (35 years old female) left leg was affected and found in chronic filarial manifestation. The Hb. concentration was 12.2 gms/dl, RBC 5.18 10⁶/mm³, WBC 6.1 10³/mm³, PLT 2.02 10³/mm³, the lymphocytes 34%, monocytes 6%, polymorphs 48% and eosinophils 12%. The estimated value of serum AST was 14 U/L, ALT 21 U/L, ALP
107 U/L, the serum total protein 6.8 gm/dl, total albumin 4.2 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.5. Before treatment the serum immunoglobulin IgA was 9.31 g/l, IgG 21.16 g/l, IgM 5.21 g/l; after treatment the total serum IgA was 5.31 g/l, IgG 16.22 g/l and IgM 2.82 g/l. The lymphocyte counts were 2,289 cells/µl, CD3 were 1,595 cells/µl, CD4 were 752 cells/µl, CD8 were 377 cells/µl and the CD4/CD8 ratio was 1.99 in blood before treatment. The lymphocyte counts 2,297 cells/µl, CD3 were 1,628 cells/µl, CD4 were 815 cells/µl, CD8 were 428 cells/µl and CD4/CD8 ratio was 1.90 cells/µl in blood after treatment.

In the patient 11, (35 years old male) hydrocoele was affected and found in acute filaria manifestation. The Hb. concentration was 12.2 gms/dil, RBC 5.36 \(10^6/\text{mm}^3\), WBC 10.2 \(10^3/\text{mm}^3\), PLT 2.86 \(10^3/\text{mm}^3\), the lymphocytes 46%, monocytes 5%, polymorphs 41% and eosinophils 8%. The estimated value of serum AST was 18 U/L, ALT 23 U/L, ALP 114 U/L, the serum total protein 6.9 gm/dl, total albumin 4.1 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.46. Before treatment the serum immunoglobulin IgA was 5.37 g/l, IgG 17.29 g/l, IgM 3.47 g/l; after treatment the total serum IgA was 2.49 g/l, IgG 10.36 g/l and IgM 1.88 g/l. The lymphocyte counts were 1,186 cells/µl, CD3 were 1,083 cells/µl, CD4 were 491 cells/µl, CD8 were 279 cells/µl and the CD4/CD8 ratio was 1.75 in blood before treatment. The lymphocyte counts were 1,290 cells/µl, CD3 were 1,208 cells/µl, CD4 were 457 cells/µl, CD8 were 293 cells/µl and CD4/CD8 ratio was 1.55 cells/µl in blood after treatment.

In the patient 12, (37 years old male) hydrocoele was affected and found in acute filaria manifestation. The Hb. concentration was 12.8 gms/dil, RBC 4.76 \(10^6/\text{mm}^3\), WBC
6.6 $10^3$/mm$^3$, PLT 1.68 $10^3$/mm$^3$, the lymphocytes 45%, monocytes 5%, polymorphs 44% and eosinophils 6%. The estimated value of serum AST was 24 U/L, ALT 37 U/L, ALP 156 U/L, the serum total protein 7.0 gm/dl, total albumin 4.2 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.5. Before treatment the serum immunoglobulin IgA was 5.98 g/l, IgG 17.52 g/l, IgM 3.12 g/l; after treatment the total serum IgA was 2.63 g/l, IgG 10.49 g/l and IgM 1.47 g/l. The lymphocyte counts were 2,449 cells/µl, CD3 were 1,667 cells/µl, CD4 were 705 cells/µl, CD8 were 347 cells/µl and the CD4/CD8 ratio was 2.03 in blood before treatment. The lymphocyte counts were 2,462 cells/µl, CD3 were 1,689 cells/µl, CD4 were 705 cells/µl, CD8 were 401 cells/µl and CD4/CD8 ratio was 1.75 cells/µl in blood after treatment.

In the patient 13, (38 years old female) right leg was affected and found in acute filarial manifestation. The Hb. concentration was 11.6 gms/dl, RBC 4.52 $10^6$/mm$^3$, WBC 10.8 $10^3$/mm$^3$, PLT 2.59 $10^3$/mm$^3$, the lymphocytes 38%, monocytes 6%, polymorphs 49% and eosinophils 7%. The estimated value of serum AST was 12 U/L, ALT 16 U/L, ALP 101 U/L, the serum total protein 6.9 gm/dl, total albumin 4.3 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.65. Before treatment the serum immunoglobulin IgA was 5.88 g/l, IgG 17.06 g/l, IgM 3.24 g/l; after treatment the total serum IgA was 5.51 g/l, IgG 8.12 g/l and IgM 1.60 g/l. The lymphocyte counts were 2,301 cells/µl, CD3 were 1,587 cells/µl, CD4 were 740 cells/µl, CD8 were 372 cells/µl and the CD4/CD8 ratio was 1.98 in blood before treatment. The lymphocyte counts were 2,338 cells/µl, CD3 were 1,603 cells/µl, CD4 were 780 cells/µl, CD8 were 392 cells/µl and CD4/CD8 ratio was 1.98 cells/µl in blood after treatment.
In the patient 14, (38 years old female) both legs were affected and found in occult filarial manifestation. The Hb. concentration was 10.7 gms/dil, RBC 4.10 $10^6$/mm$^3$, WBC 10.0 $10^3$/mm$^3$, PLT 2.36 $10^3$/mm$^3$, the lymphocytes 33%, monocytes 8%, polymorphs 53% and eosinophils 6%. The estimated value of serum AST was 18 U/L, ALT 13 U/L, ALP 98 U/L, the serum total protein 7.1 gm/dl, total albumin 4.0 gm/dl, total globulin 3.1 gm/dl and the Albumin Globulin ratio was found to be 1.29. Before treatment the serum immunoglobulin IgA was 4.1 g/l, IgG 16.49 g/l, IgM 2.27 g/l; after treatment the total serum IgA was 1.37 g/l, IgG 7.53 g/l and IgM 0.53 g/l. The lymphocyte counts were 2,491 cells/µl, CD3 were 1,922 cells/µl, CD4 were 713 cells/µl, CD8 were 417 cells/µl and the CD4/CD8 ratio was 1.70 in blood before treatment. The lymphocyte counts were 2,504 cells/µl, CD3 were 1,942 cells/µl, CD4 were 733 cells/µl, CD8 were 428 cells/µl and CD4/CD8 ratio was 1.71 cells/µl in blood after treatment.

In the patient 15, (38 years old female) left leg was affected and found in chronic filarial manifestation. The Hb. concentration was 10.6 gms/dil, RBC 4.38 $10^6$/mm$^3$, WBC 9.0 $10^3$/mm$^3$, PLT 2.22 $10^3$/mm$^3$, the lymphocytes 14%, monocytes 6%, polymorphs 44% and eosinophils 9%. The estimated value of serum AST was 11 U/L, ALT 17 U/L, ALP 116 U/L, the serum total protein 7.0 gm/dl, total albumin 4.3 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.59. Before treatment the serum immunoglobulin IgA was 8.86 g/l, IgG 24.11 g/l, IgM 4.81 g/l; after treatment the total serum IgA was 4.12 g/l, IgG 16.86 g/l and IgM 2.67 g/l. The lymphocyte counts were 2,542 cells/µl, CD3 were 1,482 cells/µl, CD4 were 617 cells/µl, CD8 were 384 cells/µl and the CD4/CD8 ratio was 1.60 in blood before treatment. The lymphocyte
counts were 2,562 cells/µl, CD3 were 1,498 cells/µl, CD4 were 669 cells/µl, CD8 were 403 cells/µl and CD4/CD8 ratio was 1.66 cells/µl in blood after treatment.

In the patient 16, (38 years old female) left leg was affected and found in acute filarial manifestation. The Hb. concentration was 9.7 gms/dil, RBC 4.30 $10^6$/mm$^3$, WBC 4.5 $10^3$/mm$^3$, PLT 1.36 $10^3$/mm$^3$, the lymphocytes 42%, monocytes 5%, polymorphs 46% and eosinophils 7%. The estimated value of serum AST was 19 U/L, ALT 27 U/L, ALP 147 U/L, the serum total protein 6.9 gm/dl, total albumin 4.0 gm/dl, total globulin 2.9 gm/dl and the Albumin Globulin ratio was found to be 1.37. Before treatment the serum immunoglobulin IgA was 7.74 g/l, IgG 18.12 g/l, IgM 3.26 g/l; after treatment the total serum IgA was 5.28 g/l, IgG 9.14 g/l and IgM 1.32 g/l. The lymphocyte counts were 3,374 cells/µl, CD3 were 1,817 cells/µl, CD4 were 747 cells/µl, CD8 were 389 cells/µl and the CD4/CD8 ratio was 1.94 in blood before treatment. The lymphocyte counts were 3,364 cells/µl, CD3 were 1,809 cells/µl, CD4 were 729 cells/µl, CD8 were 407 cells/µl and CD4/CD8 ratio was 1.79 cells/µl in blood after treatment.

In the patient 17, (39 years old male) right leg was affected and found in acute filarial manifestation. The Hb. concentration was 9.2 gms/dil, RBC 4.82 $10^6$/mm$^3$, WBC 8.6 $10^3$/mm$^3$, PLT 3.44 $10^3$/mm$^3$, the lymphocytes 31%, monocytes 3%, polymorphs 58% and eosinophils 8%. The estimated value of serum AST was 21 U/L, ALT 32 U/L, ALP 141 U/L, the serum total protein 6.8 gm/dl, total albumin 4.2 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.61. Before treatment the serum immunoglobulin IgA was 5.81 g/l, IgG 17.10 g/l, IgM 3.11 g/l; after treatment the total serum IgA was 3.14 g/l, IgG 7.52 g/l and IgM 1.28 g/l. The lymphocyte counts

68
were 3,268 cells/µl, CD3 were 2,483 cells/µl, CD4 were 1,167 cells/µl, CD8 were 764 cells/µl and the CD4/CD8 ratio was 1.52 in blood before treatment. The lymphocyte counts were 3,348 cells/µl, CD3 were 2,534 cells/µl, CD4 were 1,249 cells/µl, CD8 were 792 cells/µl and CD4/CD8 ratio was 1.57 cells/µl in blood after treatment.

In the patient 18, (40 years old male) hydrocoele was affected and found in acute filarial manifestation. The Hb. concentration was 12.2 gms/dil, RBC 5.34 \( 10^6/mm^3 \), WBC 10.0 \( 10^3/mm^3 \), PLT 2.85 \( 10^3/mm^3 \), the lymphocytes 33%, monocytes 4%, polymorphs 56% and eosinophils 7%. The estimated value of serum AST was 23 U/L, ALT 31 U/L, ALP 142 U/L, the serum total protein 7.0 gm/dl, total albumin 4.4 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.69. Before treatment the serum immunoglobulin IgA was 5.92 g/l, IgG 17.74 g/l, IgM 3.62 g/l; after treatment the total serum IgA was 3.19 g/l, IgG 7.94 g/l and IgM 1.91 g/l. The lymphocyte counts were 2,300 cells/µl, CD3 were 1,585 cells/µl, CD4 were 741 cells/µl, CD8 were 377 cells/µl and the CD4/CD8 ratio was 1.96 in blood before treatment. The lymphocyte counts were 2,321 cells/µl, CD3 were 1,792 cells/µl, CD4 were 759 cells/µl, CD8 were 422 cells/µl and CD4/CD8 ratio was 1.79 cells/µl in blood after treatment.

In the patient 19, (40 years old female) left leg was affected and found in chronic filarial manifestation. The Hb. concentration was 7.2 gms/dil, RBC 3.86 \( 10^6/mm^3 \), WBC 8.6 \( 10^3/mm^3 \), PLT 3.43 \( 10^3/mm^3 \), the lymphocytes 36%, monocytes 3%, polymorphs 50% and eosinophils 11%. The estimated value of serum AST was 17 U/L, ALT 23 U/L, ALP 99 U/L, the serum total protein 7.1 gm/dl, total albumin 4.3 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.53. Before treatment the serum
immunoglobulin IgA was 7.11 g/l, IgG 20.18 g/l, IgM 4.19 g/l; after treatment the total serum IgA was 4.10 g/l, IgG 16.10 g/l and IgM 2.14 g/l. The lymphocyte counts were 2,457 cells/µl, CD3 were 1,682 cells/µl, CD4 were 719 cells/µl, CD8 were 357 cells/µl and the CD4/CD8 ratio was 2.01 in blood before treatment. The lymphocyte counts were 2,658 cells/µl, CD3 were 1,782 cells/µl, CD4 were 707 cells/µl, CD8 were 401 cells/µl and CD4/CD8 ratio was 1.76 cells/µl in blood after treatment.

In the patient 20, (41 years old female) left leg was affected and found in acute filarial manifestation. The Hb. concentration was 10.2 gms/dil, RBC 4.55 10⁶/mm³, WBC 7.9 10³/mm³, PLT 2.49 10³/mm³, the lymphocytes 40%, monocytes 3%, polymorphs 51% and eosinophils 6%. The estimated value of serum AST was 12 U/L, ALT 17 U/L, ALP 129 U/L, the serum total protein 6.9 gm/dl, total albumin 4.3 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.65. Before treatment the serum immunoglobulin IgA was 5.83 g/l, IgG 17.63 g/l, IgM 3.92 g/l; after treatment the total serum IgA was 3.14 g/l, IgG 9.63 g/l and IgM 1.73 g/l. The lymphocyte counts were 2,528 cells/µl, CD3 were 1,617 cells/µl, CD4 were 776 cells/µl, CD8 were 510 cells/µl and the CD4/CD8 ratio was 1.52 in blood before treatment. The lymphocyte counts were 2,611 cells/µl, CD3 were 1,743 cells/µl, CD4 were 796 cells/µl, CD8 were 532 cells/µl and CD4/CD8 ratio was 1.49 cells/µl in blood after treatment.

In the patient 21, (45 years old male) hydrocoele was affected and found in acute filarial manifestation. The Hb. concentration was 11.8 gms/dil, RBC 4.51 10⁶/mm³, WBC 10.6 10³/mm³, PLT 2.58 10³/mm³, the lymphocytes 42%, monocytes 4%, polymorphs 49% and eosinophils 6%. The estimated value of serum AST was 14 U/L, ALT 19 U/L,
ALP 118 U/L, the serum total protein 6.8 gm/dl, total albumin 4.1 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.51. Before treatment the serum immunoglobulin IgA was 5.52 g/l, IgG 17.12 g/l, IgM 2.94 g/l; after treatment the total serum IgA was 2.77 g/l, IgG 8.92 g/l and IgM 1.16 g/l. The lymphocyte counts were 2968 cells/µl, CD3 were 2,077 cells/µl, CD4 were 776 cells/µl, CD8 were 635 cells/µl and the CD4/CD8 ratio was 1.22 in blood before treatment. The lymphocyte counts were 3,002 cells/µl, CD3 were 2,149 cells/µl, CD4 were 791 cells/µl, CD8 were 652 cells/µl and CD4/CD8 ratio was 1.21 cells/µl in blood after treatment.

In the patient 22, (45 years old male) left leg was affected and found in chronic filarial manifestation. The Hb. concentration was 9.6 gms/dil, RBC 3.75 $10^6/ \text{mm}^3$, WBC 5.1 $10^3/\text{mm}^3$, PLT 0.92 $10^3/\text{mm}^3$, the lymphocytes 43%, monocytes 5%, polymorphs 40% and eosinophils 12%. The estimated value of serum AST was 11 U/L, ALT 16 U/L, ALP 139 U/L, the serum total protein 7.0 gm/dl, total albumin 4.2 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.52. Before treatment the serum immunoglobulin IgA was 8.92 g/l, IgG 24.86 g/l, IgM 4.96 g/l; after treatment the total serum IgA was 4.14 g/l, IgG 16.58 g/l and IgM 2.69 g/l. The lymphocyte counts were 1,836 cells/µl, CD3 were 1,321 cells/µl, CD4 were 655 cells/µl, CD8 were 429 cells/µl and the CD4/CD8 ratio was 1.52 in blood before treatment. The lymphocyte counts were 1,876 cells/µl, CD3 were 1,342 cells/µl, CD4 were 668 cells/µl, CD8 were 452 cells/µl and CD4/CD8 ratio was 1.47 cells/µl in blood after treatment.

In the patient 23, (45 years old female) right leg was affected and found in chronic filarial manifestation (Plate 4, Fig.8). The Hb. concentration was 9.5 gms/dil, RBC 4.34
In the patient 24, (45 years old female) left leg was affected and found in chronic filarial manifestation. The Hb. concentration was 10.9 gms/dil, RBC 4.51 \(10^6/mm^3\), WBC 6.3 \(10^3/mm^3\), PLT 1.88 \(10^3/mm^3\), the lymphocytes 39%, monocytes 6%, polymorphs 45% and eosinophils 10%. The estimated value of serum AST was 11 U/L, ALT 18 U/L, ALP 134 U/L, the serum total protein 6.8 gm/dl, total albumin 4.3 gm/dl, total globulin 2.5 gm/dl and the Albumin Globulin ratio was found to be 1.72. Before treatment the serum immunoglobulin IgA was 8.46 g/l, IgG 23.87 g/l, IgM 4.26 g/l; after treatment the total serum IgA was 4.17 g/l, IgG 16.38 g/l and IgM 2.21 g/l. The lymphocyte counts were 2,457 cells/µl, CD3 were 1,916 cells/µl, CD4 were 923 cells/µl, CD8 were 624 cells/µl and the CD4/CD8 ratio was 1.47 in blood before treatment. The lymphocyte counts were 2,519 cells/µl, CD3 were 1,963 cells/µl, CD4 were 942 cells/µl, CD8 were 643 cells/µl and CD4/CD8 ratio was 1.46 cells/µl in blood after treatment.
In the patient 25, (45 years old female) left leg was affected and found in occult filarial manifestation. The Hb. concentration was 9.1 gms/dil, RBC 4.64 $10^6$/mm$^3$, WBC 10.4 $10^3$/mm$^3$, PLT 2.60 $10^3$/mm$^3$, the lymphocytes 29%, monocytes 2%, polymorphs 62% and eosinophils 7%. The estimated value of serum AST was 11 U/L, ALT 17 U/L, ALP 116 U/L, the serum total protein 7.0 gm/dl, total albumin 4.3 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.59. Before treatment the serum immunoglobulin IgA was 4.0 g/l, IgG 16.12 g/l, IgM 2.32 g/l; after treatment the total serum IgA was 1.22 g/l, IgG 7.11 g/l and IgM 0.88 g/l. The lymphocyte counts were 2912 cells/µl, CD3 were 1630 cells/µl, CD4 were 668 cells/µl, CD8 were 435 cells/µl and the CD4/CD8 ratio was 1.53 in blood before treatment. The lymphocyte counts were 2,923 cells/µl, CD3 were 1,649 cells/µl, CD4 were 683 cells/µl, CD8 were 485 cells/µl and CD4/CD8 ratio was 1.40 cells/µl in blood after treatment.

In the patient 26, (45 years old female) right leg was affected and found in chronic filarial manifestation. The Hb. concentration was 11.2 gms/dil, RBC 4.30 $10^6$/mm$^3$, WBC 6.6 $10^3$/mm$^3$, PLT 2.68 $10^3$/mm$^3$, the lymphocytes 45%, monocytes 1%, polymorphs 45% and eosinophils 9%. The estimated value of serum AST was 21 U/L, ALT 28 U/L, ALP 142 U/L, the serum total protein 6.8 gm/dl, total albumin 4.0 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.42. Before treatment the serum immunoglobulin IgA was 8.12 g/l, IgG 19.71 g/l, IgM 4.1 g/l; after treatment the total serum IgA was 3.64 g/l, IgG 14.33 g/l and IgM 1.79 g/l. The lymphocyte counts were 2,632 cells/µl, CD3 were 1,598 cells/µl, CD4 were 645 cells/µl, CD8 were 329 cells/µl and the CD4/CD8 ratio was 1.96 in blood before treatment. The lymphocyte counts were
2,653 cells/µl, CD3 were 1,622 cells/µl, CD4 were 633 cells/µl, CD8 were 414 cells/µl and CD4/CD8 ratio was 1.52 cells/µl in blood after treatment.

In the patient 27, (47 years old male) right leg was affected and found in occult filarial manifestation. The Hb. concentration was 12.3 gms/dil, RBC 5.10 10⁶/mm³, WBC 6.2 10³/mm³, PLT 2.04 10³/mm³, the lymphocytes 32%, monocytes 2%, polymorphs 58% and eosinophils 8%. The estimated value of serum AST was 12 U/L, ALT 16 U/L, ALP 127 U/L, the serum total protein 7.0 gm/dl, total albumin 4.3 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.59. Before treatment the serum immunoglobulin IgA was 3.38 g/l, IgG 16.9 g/l, IgM 2.26 g/l; after treatment the total serum IgA was 0.98 g/l, IgG 7.72 g/l and IgM 0.50 g/l. The lymphocyte counts were 2728 cells/µl, CD3 were 1,800 cells/µl, CD4 were 747 cells/µl, CD8 were 396 cells/µl and the CD4/CD8 ratio was 1.88 in blood before treatment. The lymphocyte counts were 2,816 cells/µl, CD3 were 1,859 cells/µl, CD4 were 737 cells/µl, CD8 were 426 cells/µl and CD4/CD8 ratio was 1.73 cells/µl in blood after treatment.

In the patient 28, (47 years old female) left leg was affected and found in chronic filarial manifestation. The Hb. concentration was 9.7 gms/dil, RBC 4.29 10⁶/mm³, WBC 4.6 10³/mm³, PLT 1.38 10³/mm³, the lymphocytes 44%, monocytes 3%, polymorphs 43% and eosinophils 10%. The estimated value of serum AST was 12 U/L, ALT 18 U/L, ALP 136 U/L, the serum total protein 6.9 gm/dl, total albumin 4.2 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.55. Before treatment the serum immunoglobulin IgA was 7.61 g/l, IgG 20.68 g/l, IgM 3.98 g/l; after treatment the total serum IgA was 4.36 g/l, IgG 16.18 g/l and IgM 1.82 g/l. The lymphocyte counts were
1,156 cells/µl, CD3 were 1,182 cells/µl, CD4 were 494 cells/µl, CD8 were 263 cells/µl and the CD4/CD8 ratio was 1.87 in blood before treatment. The lymphocyte counts were 1,179 cells/µl, CD3 were 1,198 cells/µl, CD4 were 516 cells/µl, CD8 were 287 cells/µl and CD4/CD8 ratio was 1.79 cells/µl in blood after treatment.

In the patient 29, (48 years old male) hydrocele was affected and found in acute filarial manifestation. The Hb. concentration was 13.0 gms/dil, RBC 5.48 $10^6$/mm$^3$, WBC 4.9 $10^3$/mm$^3$, PLT 1.67 $10^3$/mm$^3$, the lymphocytes 28%, monocytes 4%, polymorphs 62% and eosinophils 6%. The estimated value of serum AST was 14 U/L, ALT 22 U/L, ALP 148 U/L, the serum total protein 7.1 gm/dl, total albumin 4.4 gm/dl, total globulin 2.9 gm/dl and the Albumin Globulin ratio was found to be 1.51. Before treatment the serum immunoglobulin IgA was 5.36 g/l, IgG 17.24 g/l, IgM 3.56 g/l; after treatment the total serum IgA was 3.27 g/l, IgG 10.12 g/l and IgM 1.89 g/l. The lymphocyte counts were 1,947 cells/µl, CD3 were 1,302 cells/µl, CD4 were 647 cells/µl, CD8 were 404 cells/µl and the CD4/CD8 ratio was 1.60 in blood before treatment. The lymphocyte counts were 1,959 cells/µl, CD3 were 1,317 cells/µl, CD4 were 652 cells/µl, CD8 were 409 cells/µl and CD4/CD8 ratio was 1.59 cells/µl in blood after treatment.

In the patient 30, (48 years old female) left leg was affected and found in occult filarial manifestation. The Hb. concentration was 11.3 gms/dil, RBC 4.32 $10^6$/mm$^3$, WBC 6.6 $10^3$/mm$^3$, PLT 2.70 $10^3$/mm$^3$, the lymphocytes 34%, monocytes 2%, polymorphs 57% and eosinophils 7%. The estimated value of serum AST was 21 U/L, ALT 28 U/L, ALP 142 U/L, the serum total protein 6.8 gm/dl, total albumin 4.0 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.42. Before treatment the serum
immunoglobulin IgA was 3.91 g/l, IgG 16.13 g/l, IgM 2.19 g/l; after treatment the total serum IgA was 1.07 g/l, IgG 7.18 g/l and IgM 0.40 g/l. The lymphocyte counts were 2,640 cells/µl, CD3 were 1,584 cells/µl, CD4 were 636 cells/µl, CD8 were 484 cells/µl and the CD4/CD8 ratio was 1.31 in blood before treatment. The lymphocyte counts were 2,662 cells/µl, CD3 were 1,590 cells/µl, CD4 were 656 cells/µl, CD8 were 498 cells/µl and CD4/CD8 ratio was 1.31 cells/µl in blood after treatment.

In the patient 31, (48 years old male) right leg was affected and found in chronic filarial manifestation. The Hb. concentration was 11.6 gms/dil, RBC 4.77 $10^6$/mm$^3$, WBC 7.8 $10^3$/mm$^3$, PLT 2.29 $10^3$/mm$^3$, lymphocytes 41%, monocytes 2%, polymorphs 46% and eosinophils 11%. The estimated value of serum AST was 16 U/L, ALT 21 U/L, ALP 131 U/L, the serum total protein 7.0 gm/dl, total albumin 4.4 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.69. Before treatment the serum immunoglobulin IgA was 7.2 g/l, IgG 19.17 g/l, IgM 4.11 g/l; after treatment the total serum IgA was 3.92 g/l, IgG 14.96 g/l and IgM 2.9 g/l. The lymphocyte counts were 2,418 cells/µl, CD3 were 1,499 cells/µl, CD4 were 647 cells/µl, CD8 were 371 cells/µl and the CD4/CD8 ratio was 1.74 in blood before treatment. The lymphocyte counts were 2,522 cells/µl, CD3 were 1,528 cells/µl, CD4 were 647 cells/µl, CD8 were 371 cells/µl and CD4/CD8 ratio was 1.74 cells/µl in blood after treatment.

In the patient 32, (50 years old female) left leg was affected and found in acute filarial manifestation. The Hb. concentration was 7.5 gms/dil, RBC 3.29 $10^6$/mm$^3$, WBC 8.8 $10^3$/mm$^3$, PLT 3.40 $10^3$/mm$^3$, lymphocytes 27%, monocytes 3%, polymorphs 64% and eosinophils 6%. The estimated value of serum AST was 24 U/L, ALT 37 U/L, ALP
156 U/L, the serum total protein 7.0 gm/dl, total albumin 4.2 gm/dl, total globulin 2.8
 gm/dl and the Albumin Globulin ratio was found to be 1.5. Before treatment the serum
 immunoglobulin IgA was 5.63 g/l, IgG 17.14 g/l, IgM 3.20 g/l; after treatment the total
 serum IgA was 2.89 g/l, IgG 15.31 g/l and IgM 1.47 g/l. The lymphocyte counts were
 2,728 cells/µl, CD3 were 1,691 cells/µl, CD4 were 625 cells/µl, CD8 were 326 cells/µl
 and the CD4/CD8 ratio was 1.91 in blood before treatment. The lymphocyte counts were
 3,942 cells/µl, CD3 were 1,752 cells/µl, CD4 were 701 cells/µl, CD8 were 414 cells/µl
 and CD4/CD8 ratio was 1.69 cells/µl in blood after treatment.

In the patient 33, (50 years old female) both legs were affected and found in acute
filarial manifestation. The Hb. concentration was 10.0 gms/dil, RBC 3.55 10^{6}/mm^{3}, WBC
9.4 10^{3}/mm^{3}, PLT 3.04 10^{3}/mm^{3}, lymphocytes 29%, monocytes 1%, polymorphs 65%
and eosinophils 5%. The estimated value of serum AST was 23 U/L, ALT 18 U/L, ALP
96 U/L, the serum total protein 6.8 gm/dl, total albumin 4.2 gm/dl, total globulin 2.6
 gm/dl and the Albumin Globulin ratio was found to be 1.61. Before treatment the serum
 immunoglobulin IgA was 5.47 g/l, IgG 17.2 g/l, IgM 2.89 g/l; after treatment the total
 serum IgA was 2.73 g/l, IgG 15.19 g/l and IgM 1.39 g/l. The lymphocyte counts were
 3,384 cells/µl, CD3 were 1,827 cells/µl, CD4 were 767 cells/µl, CD8 were 359 cells/µl
 and the CD4/CD8 ratio was 2.13 in blood before treatment. The lymphocyte counts were
 3,574 cells/µl, CD3 were 2,009 cells/µl, CD4 were 752 cells/µl, CD8 were 397 cells/µl
 and CD4/CD8 ratio was 1.98 cells/µl in blood after treatment.

In the patient 34, (50 years old male) left leg was affected and found in acute
filarial manifestation. The Hb. concentration was 12.8 gms/dil, RBC 4.75 10^{6}/mm^{3}, WBC
6.4 \(10^3/\text{mm}^3\), PLT 1.68 \(10^3/\text{mm}^3\), lymphocytes 31%, monocytes 1%, polymorphs 61% and eosinophils 7%. The estimated value of serum AST was 11 U/L, ALT 14 U/L, ALP 138 U/L, the serum total protein 6.9 gm/dl, total albumin 4.2 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.55. Before treatment the serum immunoglobulin IgA was 5.52 g/l, IgG 16.98 g/l, IgM 2.71 g/l; after treatment the total serum IgA was 2.44 g/l, IgG 15.1 g/l and IgM 1.14 g/l. The lymphocyte counts were 2,496 cells/µl, CD3 were 1,946 cells/µl, CD4 were 723 cells/µl, CD8 were 487 cells/µl and the CD4/CD8 ratio was 1.48 in blood before treatment. The lymphocyte counts were 2,536 cells/µl, CD3 were 1.975 cells/µl, CD4 were 740 cells/µl, CD8 were 502 cells/µl and CD4/CD8 ratio was 1.47 cells/µl in blood after treatment.

In the patient 35, (50 years old female) right leg was affected and found in chronic filarial manifestation (Plate 4, Fig.10). The Hb. concentration was 10.7 gms/dil, RBC 4.09 \(10^6/\text{mm}^3\), WBC 9.9 \(10^3/\text{mm}^3\), PLT 2.36 \(10^3/\text{mm}^3\), lymphocytes 36%, monocytes 2%, polymorphs 51% and eosinophils 11%. The estimated value of serum AST was 12 U/L, ALT 19 U/L, ALP 178 U/L, the serum total protein 6.8 gm/dl, total albumin 4.3 gm/dl, total globulin 2.5 gm/dl and the Albumin Globulin ratio was found to be 1.72. Before treatment the serum immunoglobulin IgA was 8.3 g/l, IgG 20.87 g/l, IgM 4.23 g/l; after treatment the total serum IgA was 4.1 g/l, IgG 16.42 g/l and IgM 2.16 g/l. The lymphocyte counts were 3,564 cells/µl, CD3 were 1,924 cells/µl, CD4 were 606 cells/µl, CD8 were 704 cells/µl and the CD4/CD8 ratio was 0.86 in blood before treatment. The lymphocyte counts were 3,576 cells/µl, CD3 were 1,943 cells/µl, CD4 were 619 cells/µl, CD8 were 723 cells/µl and CD4/CD8 ratio was 0.85 cells/µl in blood after treatment.
In the patient 36, (50 years old male) left leg was affected and found in occult filarial manifestation (Plate 4, Fig.5). The Hb. concentration was 11.2 gms/dl, RBC 4.63 $10^6$mm$^3$, WBC 9.1 $10^3$mm$^3$, PLT 1.37 $10^3$mm$^3$, lymphocytes 38%, monocytes 4%, polymorphs 52% and eosinophils 6%. The estimated value of serum AST was 11 U/L, ALT 17 U/L, ALP 116 U/L, the serum total protein 7.0 gm/dl, total albumin 4.3 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.59. Before treatment the serum immunoglobulin IgA was 3.81 g/l, IgG 16.18 g/l, IgM 2.19 g/l; after treatment the total serum IgA was 1.13 g/l, IgG 7.99 g/l and IgM 0.37 g/l. The lymphocyte counts were 3,458 cells/µl, CD3 were 2,628 cells/µl, CD4 were 1,382 cells/µl, CD8 were 806 cells/µl and the CD4/CD8 ratio was 1.71 in blood before treatment. The lymphocyte counts were 3,416 cells/µl, CD3 were 2,552 cells/µl, CD4 were 1,217 cells/µl, CD8 were 719 cells/µl and CD4/CD8 ratio was 1.69 cells/µl in blood after treatment.

In the patient 37, (50 years old female) left leg and left hand were affected and found in acute filarial manifestation (Plate 4, Fig.7). The Hb. concentration was 11.2 gms/dl, RBC 4.91 $10^6$mm$^3$, WBC 4.9 $10^3$mm$^3$, PLT 1.66 $10^3$mm$^3$, lymphocytes 24%, monocytes 3%, polymorphs 66% and eosinophils 7%. The estimated value of serum AST was 12 U/L, ALT 18 U/L, ALP 81 U/L, the serum total protein 6.9 gm/dl, total albumin 4.5 gm/dl, total globulin 2.4 gm/dl and the Albumin Globulin ratio was found to be 1.87. Before treatment the serum immunoglobulin IgA was 6.83 g/l, IgG 17.52 g/l, IgM 4.2 g/l; after treatment the total serum IgA was 4.27 g/l, IgG 12.56 g/l and IgM 1.81 g/l. The lymphocyte counts were 3,100 cells/µl, CD3 were 998 cells/µl, CD4 were 656 cells/µl, CD8 were 295 cells/µl and the CD4/CD8 ratio was 2.22 in blood before treatment (Plate
The lymphocyte counts were 1,982 cells/µl, CD3 were 1,587 cells/µl, CD4 were 612 cells/µl, CD8 were 337 cells/µl and CD4/CD8 ratio was 1.81 cells/µl in blood after treatment.

In the patient 38, (51 years old male) left leg was affected and found in acute filarial manifestation. The Hb. concentration was 11.6 gms/dil, RBC 4.84 $10^6$/mm$^3$, WBC 4.8 $10^3$/mm$^3$, PLT 2.83 $10^3$/mm$^3$, lymphocytes 48%, monocytes 2%, polymorphs 40% and eosinophils 10%. The estimated value of serum AST was 17 U/L, ALT 23 U/L, ALP 99 U/L, the serum total protein 7.1 gm/dl, total albumin 4.3 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.53. Before treatment the serum immunoglobulin IgA was 5.62 g/l, IgG 17.3 g/l, IgM 3.81 g/l; after treatment the total serum IgA was 2.81 g/l, IgG 13.49 g/l and IgM 1.69 g/l. The lymphocyte counts were 2.064 cells/µl, CD3 were 1.502 cells/µl, CD4 were 717 cells/µl, CD8 were 401 cells/µl and the CD4/CD8 ratio was 1.78 in blood before treatment. The lymphocyte counts were 2,084 cells/µl, CD3 were 1,509 cells/µl, CD4 were 728 cells/µl, CD8 were 420 cells/µl and CD4/CD8 ratio was 1.73 cells/µl in blood after treatment.

In the patient 39, (52 years old female) left leg was affected and found in chronic filarial manifestation (Plate 4, Fig.9). The Hb. concentration was 10.6 gms/dil, RBC 4.38 $10^6$/mm$^3$, WBC 9.1 $10^3$/mm$^3$, PLT 2.24 $10^3$/mm$^3$, lymphocytes 36%, monocytes 1%, polymorphs 55% and eosinophils 8%. The estimated value of serum AST was 12 U/L, ALT 16 U/L, ALP 101 U/L, the serum total protein 6.9 gm/dl, total albumin 4.3 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.65. Before treatment the serum immunoglobulin IgA was 8.98 g/l, IgG 24.91 g/l, IgM 4.27 g/l; after treatment the total serum IgA was 5.63 g/l, IgG 16.72 g/l and IgM 2.48 g/l.
lymphocyte counts were 3,458 cells/µl, CD3 were 2,489 cells/µl, CD4 were 1,045 cells/µl, CD8 were 647 cells/µl and the CD4/CD8 ratio was 1.61 in blood before treatment. The lymphocyte counts were 3,596 cells/µl, CD3 were 2,572 cells/µl, CD4 were 1,159 cells/µl, CD8 were 711 cells/µl and CD4/CD8 ratio was 1.63 cells/µl in blood after treatment.

In the patient 40, (52 years old female) right leg was affected and found in occult filarial manifestation. The Hb concentration was 11.4 gms/dil, RBC 4.63 \(10^6/\text{mm}^3\), WBC 8.6 \(10^3/\text{mm}^3\), PLT 1.40 \(10^3/\text{mm}^3\), lymphocytes 44%, monocytes 2%, polymorphs 47% and eosinophils 7%. The estimated value of serum AST was 11 U/L, ALT 14 U/L, ALP 119 U/L, the serum total protein 6.8 gm/dl, total albumin 4.2 gm/dl, total globulin 2.7 gm/dl and the Albumin Globulin ratio was found to be 1.55. Before treatment the serum immunoglobulin IgA was 3.86 g/l, IgG 16.12 g/l, IgM 2.17 g/l; after treatment the total serum IgA was 3.88 g/l, IgG 7.81 g/l and IgM 0.33 g/l. The lymphocyte counts were 3,526 cells/µl, CD3 were 2,246 cells/µl, CD4 were 1,152 cells/µl, CD8 were 687 cells/µl and the CD4/CD8 ratio was 1.67 in blood before treatment. The lymphocyte counts were 3,516 cells/µl, CD3 were 2,231 cells/µl, CD4 were 1,082 cells/µl, CD8 were 614 cells/µl and CD4/CD8 ratio was 1.76 cells/µl in blood after treatment.

In the patient 41, (53 years old male) left leg was affected and found in occult filarial manifestation. The Hb. concentration was 9.3 gms/dil, RBC 4.17 \(10^6/\text{mm}^3\), WBC 7.6 \(10^3/\text{mm}^3\), PLT 1.32 \(10^3/\text{mm}^3\), lymphocytes 47%, monocytes 1%, polymorphs 46% and eosinophils 6%. The estimated value of serum AST was 14 U/L, ALT 21 U/L, ALP 107 U/L, the serum total protein 6.9 gm/dl, total albumin 4.2 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.5. Before treatment the serum
immunoglobulin IgA was 3.91 g/l, IgG 16.18 g/l, IgM 2.24 g/l; after treatment the total serum IgA was 3.72 g/l, IgG 7.97 g/l and IgM 1.64 g/l. The lymphocyte counts were 3,192 cells/µl, CD3 were 2,010 cells/µl, CD4 were 737 cells/µl, CD8 were 397 cells/µl and the CD4/CD8 ratio was 1.85 in blood before treatment. The lymphocyte counts were 3,241 cells/µl, CD3 were 2,218 cells/µl, CD4 were 792 cells/µl, CD8 were 418 cells/µl and CD4/CD8 ratio was 1.89 cells/µl in blood after treatment.

In the patient 42, (55 years old female) left leg was affected and found in chronic filarial manifestation. The Hb. concentration was 11.0 gms/dil, RBC 4.36 $10^6$/mm$^3$, WBC 7.9 $10^3$/mm$^3$, PLT 1.42 $10^3$/mm$^3$, lymphocytes 32%, monocytes 4%, polymorphs 56% and eosinophils 8%. The estimated value of serum AST was 18 U/L, ALT 23 U/L, ALP 114 U/L, the serum total protein 6.8 gm/dl, total albumin 4.1 gm/dl, total globulin 2.8 gm/dl and the Albumin Globulin ratio was found to be 1.46. Before treatment the serum immunoglobulin IgA was 7.1 g/l, IgG 19.87 g/l, IgM 4.10 g/l; after treatment the total serum IgA was 3.84 g/l, IgG 14.51 g/l and IgM 2.7 g/l. The lymphocyte counts were 2,964 cells/µl, CD3 were 1,733 cells/µl, CD4 were 772 cells/µl, CD8 were 514 cells/µl and the CD4/CD8 ratio was 1.50 in blood before treatment. The lymphocyte counts were 3,217 cells/µl, CD3 were 1,847 cells/µl, CD4 were 812 cells/µl, CD8 were 617 cells/µl and CD4/CD8 ratio was 1.31 cells/µl in blood after treatment.

In the patient 43, (55 years old male) hydrocele and right leg were affected and found in acute filarial manifestation. The Hb. concentration was 11.5 gms/dil, RBC 4.65 $10^6$/mm$^3$, WBC 6.3 $10^3$/mm$^3$, PLT 2.21 $10^3$/mm$^3$, lymphocytes 30%, monocytes 4%, polymorphs 59% and eosinophils 7%. The estimated value of serum AST was 19 U/L, ALT 27 U/L, ALP 147 U/L, the serum total protein 6.4 gm/dl, total albumin 4.0 gm/dl,
total globulin 2.9 gm/dl and the Albumin Globulin ratio was found to be 1.37. Before treatment the serum immunoglobulin IgA was 5.74 g/l, IgG 17.53 g/l, IgM 3.48 g/l; after treatment the total serum IgA was 3.12 g/l, IgG 10.57 g/l and IgM 1.72 g/l. The lymphocyte counts were 2,205 cells/µl, CD3 were 1,543 cells/µl, CD4 were 705 cells/µl, CD8 were 459 cells/µl and the CD4/CD8 ratio was 1.53 in blood before treatment. The lymphocyte counts were 2,248 cells/µl, CD3 were 1,559 cells/µl, CD4 were 722 cells/µl, CD8 were 473 cells/µl and CD4/CD8 ratio was 1.52 cells/µl in blood after treatment.

In the patient 44, (55 years old male) right leg was affected and found in chronic filarial manifestation. The Hb. concentration was 11.4 gms/dil, RBC 4.45 $10^6$/mm$^3$, WBC 5.5 $10^3$/mm$^3$, PLT 1.54 $10^3$/mm$^3$, lymphocytes 39%, monocytes 2%, polymorphs 50% and eosinophils 9%. The estimated value of serum AST was 11 U/L, ALT 14 U/L, ALP 126 U/L, the serum total protein 7.1 gm/dl, total albumin 4.3 gm/dl, total globulin 2.6 gm/dl and the Albumin Globulin ratio was found to be 1.65. Before treatment the serum immunoglobulin IgA was 7.21 g/l, IgG 20.49 g/l, IgM 3.94 g/l; after treatment the total serum IgA was 3.96 g/l, IgG 16.12 g/l and IgM 1.68 g/l. The lymphocyte counts were 2,255 cells/µl, CD3 were 1,368 cells/µl, CD4 were 653 cells/µl, CD8 were 361 cells/µl and the CD4/CD8 ratio was 1.80 in blood before treatment. The lymphocyte counts were 2273 cells/µl, CD3 were 1,378 cells/µl, CD4 were 692 cells/µl, CD8 were 417 cells/µl and CD4/CD8 ratio was 1.65 cells/µl in blood after treatment.

In the patient 45, (56 years old male) right leg was affected and found in chronic filarial manifestation. The Hb. concentration was 7.3 gms/dil, RBC 3.85 $10^6$/mm$^3$, WBC 8.5 $10^3$/mm$^3$, PLT 3.44 $10^3$/mm$^3$, lymphocytes 42%, monocytes 3%, polymorphs 46% and eosinophils 9%. The estimated value of serum AST was 26 U/L, ALT 34 U/L, ALP 117 U/L, the serum total protein 6.9 gm/dl, total albumin 4.2 gm/dl, total globulin 2.7
gm/dl and the Albumin Globulin ratio was found to be 1.55. Before treatment the serum immunoglobulin IgA was 10.42 g/l, IgG 23.17 g/l, IgM 5.13 g/l; after treatment the total serum IgA was 5.72 g/l, IgG 16.69 g/l and IgM 2.71 g/l. The lymphocyte counts were 2,975 cells/µl, CD3 were 2,082 cells/µl, CD4 were 1,034 cells/µl, CD8 were 626 cells/µl and the CD4/CD8 ratio was 1.65 in blood before treatment. The lymphocyte counts were 3,014 cells/µl, CD3 were 2098 cells/µl, CD4 were 1,057 cells/µl, CD8 were 646 cells/µl and CD4/CD8 ratio was 1.63 cells/µl in blood after treatment.
Analysis of serum immunoglobulins and CD4 and CD8 cells:

Basing on the clinical manifestation shown by the patients (45) and following the WHO recommendations (WHO, 1992), the filarial patients (positive cases) were separated into three groups as occult, acute and chronic patients. The estimated values of total serum IgA, IgG and IgM and Serum CD4 and CD8 cell counts and CD4/CD8 ratio in occult, acute and chronic patients are shown in table 14 to 21 and figures 1 to 8.

Total serum IgA, IgG and IgM values recorded in occult filarial patients (before treatment with DEC) (table-14 and figure-1):

Compared to the control values (normal values) all the occult filarial patients (11) showed normal values of IgA, IgG and IgM levels (with few exceptions of negligible difference) before treatment with DEC.

Total serum IgA, IgG and IgM values recorded in acute filarial patients (before treatment with DEC) (table-15 and figure-2):

The level of IgA, IgG and IgM showed higher values in serum of all the acute filarial patients (18) (before treatment with DEC) when compared to control values.

Total serum IgA, IgG and IgM values recorded in chronic filarial patients (before treatment with DEC) (table-16 and figure-3):

The level of IgA, IgG and IgM showed higher values in serum of all the chronic filarial patients (16) (before treatment with DEC) when compared to control values.
Total serum IgA, IgG and IgM values recorded in occult filarial patients (after treatment with DEC) (table-17 and figure-4):

The level of serum IgA, IgG and IgM returned to normal range in all the occult filarial patients (after treatment with DEC).

Total serum IgA, IgG and IgM values recorded in acute filarial patients (after treatment with DEC) (table-18 and figure-5):

The level of serum IgA, IgG and IgM was found to be normal range in all the acute filarial patients (after treatment with DEC).

Total serum IgA, IgG and IgM values recorded in chronic filarial patients (after treatment with DEC) (table-19 and figure-6):

The values of IgA were found to be higher than control in chronic filarial patients (after treatment with DEC) (except in 5 patients). The level of IgG and IgM showed normal values in chronic filarial patient after treatment with DEC (with few exceptions of negligible differences).

CD4 and CD8 cell counts and CD4/CD8 cell ratio recorded in filarial patients (with low counts of CD8 cells) (before treatment with DEC) (table-20 and figure-7):

All the occult, acute and chronic filarial patients showed low lymphocytes counts, normal range of CD4 cells and low number of CD8 cells. The CD4/CD8 ratio was found to be normal among all the selected filarial patients.
CD4 and CD8 cell counts and CD4/CD8 cell ratio recorded in filarial patients (with low counts of CD8 cells) (after treatment with DEC) (table-21 and figure-8):

All the occult, acute and chronic filarial patients showed low lymphocytes counts (with few exceptions of negligible references), normal rage of CD4 cells and low number of CD8 cells. The CD4/CD8 ratio was found to be normal among all the selected filarial patients.
Detection of positive cases: Out of the 3,292 blood samples collected and examined, the positive cases found to be 163.

Filiariometric parasitic indices:

1. Microfilaria Rate (mf Rate): It is the proportion of microfilaria carriers to the total no. of persons examined.

\[
\text{mf rate} = \frac{\text{No. of mf carriers}}{\text{Total no. of blood samples examined}} \times 100
\]

Out of 3,292 persons examined, there were 128 mf carriers. The mf rate was calculated as 3.88%.

2. Disease Rate: It is the proportion of persons with disease to the total no. of persons examined.

\[
\text{Disease rate} = \frac{\text{No. of persons with disease}}{\text{No. of persons examined for filarial disease}} \times 100
\]

Out of 3,292 persons as examined, 163 persons were found suffering from clinical manifestations of filaria. The disease rate was 4.95%.

3. Endemicity Rate: It is the proportion of sum total no. of mf carriers and total no. of persons with disease to the total no. of persons examined.
Endemicity rate = \frac{\text{No. of persons with mf + no. of persons with disease}}{\text{Total no. of persons examined in the survey}} \times 100

\text{Endemicity rate} = \frac{128 + 163}{3292} \times 100 = 8.83\% 

Out of 3,292 persons examined, 128 persons were found to harbor microfilariae and 163 persons were suffering from disease. The endemicity rate calculated was 8.83%.

4. **Average mf Density**: It is the proportion total no. of mf among mf carriers to the no. of microfilaria carriers,

\text{Average mf Density} = \frac{\text{Total no. of microfilariae among mf carriers}}{\text{Total no. of blood samples }^{+} \text{ve for mf}}

\text{Average mf Density} = \frac{1048}{128} = 8.187

Out of 128 microfilarial cases (found positive), a total number of 1,048 microfilarial parasites were detected. The average mf density was calculated as 8.187.