# MATERIALS AND METHODS

**STUDY SAMPLE:**

The study has been carried out at Shree Sayajirao General Hospital and Medical College, Baroda during the period of June 2004 to May 2005. The study included 50 patients of pleural effusion.

**INCLUSION CRITERIA:**

1. Patients of any age having tappable quantity of pleural effusion.
2. Patients giving consent for being included as a part of the study.

**EXCLUSION CRITERIA:**

1. Patients having pleural effusion with more than one etiology or having hepatic disease.
2. Patients using oral contraceptive pills, anticancer drugs, cyclophosphamide and pregnancy as all these conditions are known to affect / alter the ChE activity.
3. Patients not giving consent for being included as a part of the study.

**METHODS:**

(A) CLINICAL -

All patients were explained about the study in details, following which an informed written consent was taken regarding permission for inclusion in the study.
Detailed clinical history including personal data, the chief complaints, past history, family history, personal habits were taken as per the decided protocol. Clinical examination with particular importance to respiratory system was done.

(B) LABORATORY INVESTIGATIONS –

Each patient on the first visit was evaluated with the following:

1) Hemogram with erythrocyte sedimentation rate.
2) Urine examination – routine and microscopic
3) Blood urea and serum creatinine
4) Liver function tests
5) Serum proteins with albumin and globulin fraction
6) Sputum examination – Gram's stain and acid-fast stain

7) Chest Xray (PA view)
8) Pleural fluid analysis – appearance and colour, cells (total and differential), sugar, protein and LDH levels.
9) Serum and pleural fluid Cholinesterase levels.
10) Other investigations as required.

PLEURAL FLUID ANALYSIS:

A) Physical – Colour
Appearance
Quantity
Clot (suggestive of raised protein or presence of blood)
Deposit (suggestive of contamination)

B)Chemical - Protein
Sugar
LDH
Cholinesterase (serum and pleural fluid)

All these biochemical investigations were performed (from supernatant fluid after centrifuge at 3000 rpm for 15 min)

by dry chemistry method on VITROS 750 and VITROS DTSC/60 machines (Johnson and Johnson)

C)Microscopic – Total cell count (by charging Neubar's chamber after diluting with Turk's fluid)

- Differential count (3 smears stained with Geimsa, Gram's stain and Zeil Neelson)