MATERIAL & METHOD
The study consists of 350 patients having haemorrhoids presented with different symptoms -treated by Cryosurgery.

A proforma was completed at the initial attendance recording the age, sex, diet, family history, presence or absence of various symptoms with its duration and its associated disease. Rectal and proctoscopy examination was performed on all patients and the presence of anal pathology was recorded. Blood examination for haemoglobin, blood group and blood sugar levels (in selected cases) were done. Special investigations like sigmoidoscopy with or without biopsy, colonoscopy and Ba. Enema were done in few cases suspected of having other colonic diseases.

Goligher’s system was followed to classify the degree of haemorrhoids.

Symptoms :

Common symptomatology of patients :

- Bleeding & prolapse are the two cardinal symptoms of internal haemorrhoids.

- Pain or some sort of discomfort may be associated with haemorrhoids.
(a) Bleeding: It is the first and most common symptom found, which may be slight streak of blood in motion. Later which may be in the form of steady drop of blood after motion. Later bleeding can occur at any time when the haemorrhoids are prolapsed and congested. Usually bleeding is painless, bright red in colour and is splash in pan.

(b) Prolapse: Prolapse of the haemorrhoid may occur late in development. Once the prolapse occurs later the haemorrhoids tend to remain in a prolapse condition after the motion has been passed and it is necessary to replace them digitally in anal canal. They come out on exersion such as sneezing, coughing, lifting, walking or passing flatus. Finally a stage is reached when they permanently remain prolapsed.

(c) Discharge: A mucoid discharge is common with prolapsing piles.

(d) Anal Irritation: Irritation of the perianal skin because of moist and soddeness because discharge may be associated with haemorrhoids.

(e) Pain: Prolapse thrombosed inflammed and strangulated piles are painful, associated fissure and perianal abscess makes it very painful.
(f) Symptoms of secondary anemia: Due to blood loss causes breathlessness on exertion, diziness on standing, lethargy and pallor. Sudden severe haemorrhage may bring the patient in shock.

ANO-RECTAL FINDINGS IN INTERNAL HAEMORRHOIDS

(a) Inspection: Skin covered components of haemorrhoids may be evident at the anal orifice as distinct swellings in three main positions:

(b) Palpation: May be felt as soft collapsible venous swellings with submucous fibrosis.

(c) Proctoscopy: Haemorrhoids bulge into the lumen of the proctoscope when the instrument is gradually withdrawn.

(d) Sigmoidoscopy: It is done as a routine in patients with haemorrhoids above the age of forty to rule out associated malignancy.
Complications:

1. Haemorrhage
2. Strangulation.
3. Thrombosis.
4. Ulceration.
5. Gangrene.
6. Fibrosis.
7. Suppuration.
8. Pyelephlebitis.

Technique of Cryosurgery:

In the technique of cryosurgery for internal piles local anaesthesia was used in most of cases. Those cases requiring associated treatment for acute fissure in ano (Lord's dilatation) were subjected to General Anaesthesia.

Position: Left lateral position was used in most of the cases. Some of the patients were prepared in Lithotomy position.
SET UP FOR CRYOSURGERY
SELF DESIGNED CRYOSURGERY APPARATUS
THIRD DEGREE HAEMORRHOIDS

INTERNAL PILES BEFORE CRYOSURGERY
A well lubricated proctoscope was introduced and after removing the obturator the proctoscope was slowly withdrawn up to a stage when the largest haemorrhoid protrudes in the lumen of the proctoscope.

The pile to be cryo-treated is moistened with lignocaine jelly 2% and pre-sterilized cryo-prob with lignocaine jelly is applied over the pile mass. The probe is activated by squeezing the trigor. The freezing is continued for 2-3 minutes at one site. Depending upon the pile mass, the freezing time was increased up to 3 minutes at one site. When freezing is complete the trigor is released which allows the probe to rewarm (instant defrost system) and later probe separates from pile mass which is later removed. It is important to make sure that the tip of the probe has completely separated from the pile mass to avoid inadvertent mucosal damage which leads to bleeding.

Reapplication of the probe is done to the same pile when it is too large at two or three places to completely treat the haemorrhoid. At the end of the procedure a small tulle dressing was inserted into anus and light guaze pad applied.

Only one pile was treated at a time when local anaesthesia was used and when general anaesthesia was used all the three piles were treated simultaneously. Under local anaesthesia three piles were treated with 3-5 days to avoid post cryo-surgery rectal discharge and consequent local discomfort.
The patients were allowed to go home (they walk back home after half an hour after cryo surgery) and were asked to come after 3 days for check up. They were instructed to take laxatives, anti-inflammatory drugs and antibiotics for 3 days. They were allowed normal diet, normal mobility. All the patients were advised to take sitz bath for 10 minutes every day till the entire treatment was completed.

Follow-up period:

All the patients were followed up six weeks, six months, one year and 3 years period after the treatment. In the post-operative period each patient was closely questioned regarding symptoms and case notes were made of analgesic and dressing required. At each visit note was again made of all symptoms and signs and digital, proctoscopic examinations of rectum performed. the following post-operative complications were assessed:

(1) Post-operative bleeding: It was categorised into:

(a) Primary Bleeding (PB): It occurs during the procedures.

(b) Reactionary Bleeding (RB): It occurs within 24 hours of procedure.

(c) Secondary bleeding (SB): It occurs after 24 hours but within 10 days of procedure.
These in turn were subdivided into mild and severe types of bleeding.

- Mild bleeding which could be controlled with local pressure and required no transfusion.
- Severe bleeding which requires surgical intervention with or without blood transfusion.

(2) Post-operative pain: was subdivided into three grades:

(a) Mild Pain: (1) requiring oral analgesics for its relief.
(b) Moderate Pain: (2) requiring oral analgesics for 2-3 days.
(c) Severe Pain: (3) requiring injectable analgesics.

(3) Retention of Urine: It is classified as:

Grade - I: Requiring hot water fomentation for its relief or requires catheterization for its relief.

The patients were asked regarding their assessment in follow-up period after one year and 3 years about the relief obtained and were categorised as:

(a) Excellent - cured.
(b) Satisfactory.
(c) Little - No Improvement.
CRYO-BIOLOGY

Recent advances in cryogenic techniques have made it possible to freeze living human tissues in many parts of the body. The tissue once frozen solid undergoes necrosis partly due to thrombosis of micro-circulation, autolysis and sloughing subsequently occurs within 3-5 weeks. Tissue destroyed by freezing differs in several respects from tissue destroyed by other ways such as diathermy or chemical necrosis.

The area destroyed by freezing is sharply demarkated from the surrounding normal tissues; in the boundary layer of damage cells may be only one or two cell thick. Thrombosis of the micro vessels occurs in forzen tissue and reactionary and secondary haemorrhage is rare. With standardized technique the area of cryo-necrosis is reproducible. Freezing produced permanent local anaesthesia in the frozen tissue. The inflammatory response of the body of frozen tissue is minimal, healing occurs with minimal scarring. The treatment of haemorrhoids, haemorrhoidectomy or destroying it with cautery or pressure have good results but associated with excessive pain and stenosis. Cryo-destruction of haemorrhoidal tissue is an attractive method as this procedure is painless and area of tissue destruction is precisely demarked. And complications such as bleeding, sepsis and incontinence are rare.
The most important and definitive advantage of cryosurgery is that it can be repeated even on recurrence with minimal side effects.

Local Effects of Freezing:

1. 2-3 hours after freezing the haemorrhoids becomes swollen and red.
2. Within 72 hours pale spots appear on the surfaces and coalesce to form irregular pale patches by the forth day.
3. By 5th-6th day the whole haemorrhoidal area is pale and black. Gangrenous areas appear on the tips.
4. Gangrene is usually complete between 7-9 days post-operatively.
5. Thereafter haemorrhoid begins to disintegrate and comes away completely by about the 18th day leaving a normal looking anus.
6. Profuse serous discharge begins within the first 12 hours after freezing which is maximum on 5th day and then gradually diminishes.