



Modifications in X-Ray Fistulogram Technique in Fistula-In-Ano

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ABSTRACT-

This research paper is about modification in conventional procedure of X-ray fistulogram done in fistula-in-ano. Fistula-in-ano is a common surgical condition. It is treated with various surgical and para surgical procedures. The basic diagnosis of fistula is done by X-ray fistulogram, a radiological procedure done by filling fistula track with radiopaque contrast medium and taking X-ray of the track.

As anal canal and rectum are soft tissue organs, they are not visible in X-ray. The exact length of track, course of track, the point of entrance of contrast medium into anal canal or rectal cavity is difficult to identify due to absence of any radiopaque anatomical landmark in anorectal cavity and anorectal wall.

For this following modifications are needed in X-ray fistulogram-

- 1) Inserting Ryle's tube which has a radio opaque line on it, with proper lubrication into ano rectal cavity, can be helpful in locating anal canal and rectum in X-ray.
- 2) Also infant feeding tube of least size with proper lubrication can be inserted into fistula track, up to maximum possible extent.
- 3) First X-ray should be done with both tubes in situ. It will help to get information about track length, course of track, location of internal opening and distance of internal opening from anal verge.
- 4) Second X-ray should be taken after entering contrast medium in infant feeding tube to visualise entry of contrast medium into anorectal cavity.
- 5) Stepwise two more X-rays while withdrawing infant feeding tube in fistula track with repeated use of contrast medium can give additional information about track, like course of track, branches of track and cavities around track.

I. INTRODUCTION

This research paper is about modification in conventional procedure of X-ray fistulogram done in fistula-in-ano. Fistula-in-ano is a common

anorectal surgical condition. Fistula track is formed with one opening in perianal region and another opening in anal canal or rectum. The condition occurs due to inadequate drainage of abscess around anorectal region. The most simple and low cost method of investigation for it is X-ray fistulogram. MRI can also be done, but it is expensive and is less available in remote areas. Some modifications in fistulogram technique can give additional information about track without much increase in cost.

II. TECHNIQUE OF X-RAY FISTULOGRAM--

[1] X-ray fistulography is a traditional radiological technique. It is used to define the anatomy of fistulas. It is a basic simple tool of investigation. But it is difficult to interpret and less reliable.

[2] In X-ray fistulography, the external opening is catheterized with a fine cannula, and a water-soluble contrast agent is injected to define the fistulous track.

Multiple X-rays in various views are taken to visualize the path and extent of fistula track. Presently the technique is done with use of only radiopaque contrast medium.

III. LIMITATIONS OF FISTULOGRAM TECHNIQUE IN ANORECTAL FISTULA-

There are some limitations of this technique. As anal canal, sphincters and perianal tissue are soft tissues, they are not radio opaque. It is difficult to identify exact orientation of anal canal and rectum with respect to fistula track. Internal opening of fistula is also difficult to locate because contrast medium spills in anorectal cavity and there is continuation of radiopaque shadow of track and cavity. The exact distance of anal verge from entry point of contrast medium into anorectal cavity is difficult to identify. To overcome this drawback, it is necessary to create some radiopaque landmarks in fistula track and anorectal cavity. It is necessary to insert some radiopaque thing or cannula into anal canal, rectum and fistula

track. The common available one is Ryle's tube. Ryle's tube has a radiopaque line on it.

IV. MODIFICATIONS IN THE TECHNIQUE OF FISTULOGRAM-

The Ryle's tube of 20FG should be entered in to anal canal and rectum for about 16cm with proper lubrication (4cm anal canal +12cm rectum). The extra tube outside anal margin should be cut and removed. The lower end of entered tubenear anal verge should be hold with a tie.

As fistula track is narrow and tender, infant feeding tube of 6FG should be used. It should be entered in fistula track with proper lubrication up to maximum possible extent. X-ray

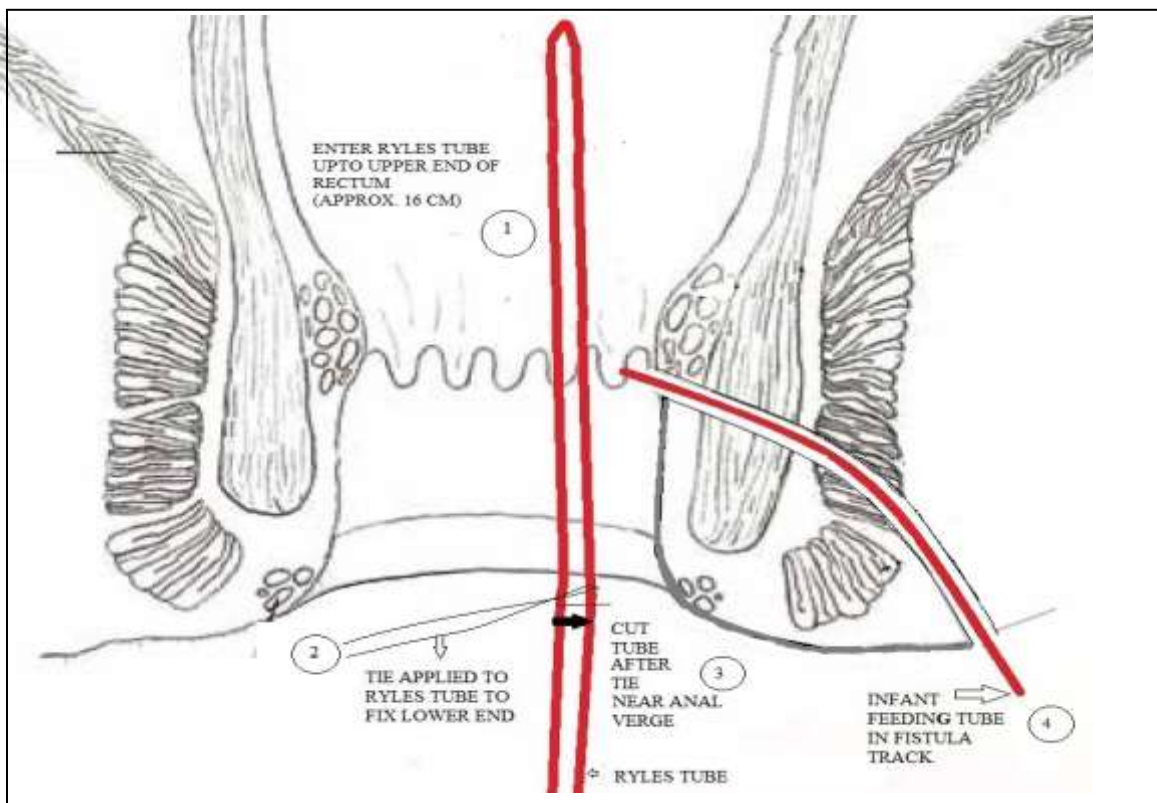
of the track should be taken while both tubes are in situ.

After the first X-ray, contrast medium should be entered in to infant feeding tube. If it enters in to rectal or anal cavity it confirms presence of internal opening.

Then infant feeding tube should be withdrawn gradually. When tube is withdrawn about half of its entered length, contrast medium should be entered in to infant feeding tube again and repeat X-ray should be taken.

The same procedure should be repeated when tip of tube is near external opening of track. This can show presence of any cavity or additional branch around the fistula track at any level.

V. DIAGRAM



The radiopaque line on Ryle's tube (present in anal canal) and infant feeding tube (present in fistula track) can give additional information about length of track, path of track, orientation of track and location of internal opening.

This procedure can give better idea of track than conventional technique. The modification does not cause significant increase in cost of procedure.

VI. CONCLUSION-

X-ray fistulogram is the cheapest and most commonly used technique for diagnosis of fistula-in-ano. It is still practiced in remote areas to diagnose presence of fistula track. Keeping Ryle's tube in to anorectal cavity and infant feeding tube in fistula track can give additional information about track length, its orientation, branches and cavity if present around track.

The modifications suggested above can be helpful in giving more precise idea of track without any significant increase in cost of investigation.



This procedure can give better idea of track than conventional technique.

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