



## Preoperative Evaluation of Perianal Fistula Using MRI Fistulogram

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### 1. INTRODUCTION

Perianal fistula is a connection between the anal canal and the skin of the perineum. Anorectal fistulas are of various types, necessitating a deep understanding of anorectal anatomy for accurate management. Perianal fistulas have a prevalence of approximately 0.01% and predominantly affect young adults, with a male-to-female ratio of approximately 2:1.

The St. James University Hospital classification, alongside Park's, offers comprehensive insight into the classification of perianal fistulas.

According to Park's classification it is divided into intersphincteric, transsphincteric, suprasphincteric and extrasphincteric.

#### Aims and Objective:

This study is aimed for Preoperative Evaluation of Perianal Fistula Using MRI Fistulogram.

It also helps to determine the frequency of different types of fistulas and related findings by MRI fistulogram.

### 2. MATERIALS AND METHODS

#### Study Design:

Type of study	Time bound observational study
Time scale of study	Six months from March 2023 to August 2023
Study site	Dept. of Radiology, MGM MCH, Aurangabad.

**Methodology:**

**Inclusion Criteria:**

Patients with variable clinical indications including pain, redness, swelling or any discharge from perianal region. Known case of perianal fistula to look for any complications.

**Exclusion Criteria:**

Patients with MR incompatible devices or implants.

Patients with Claustrophobia.

Patients not giving consent.

Total 40 patients were included who were referred for MRI fistulogram to our Radiology Department at a tertiary care teaching hospital with clinically diagnosed perianal fistulous disease.

MRI Fistulogram was done using 1.5 Tesla Philips MRI machine.

Patients were placed in a supine position and multiplanar images were obtained in all three orthogonal planes i.e the axial, sagittal and coronal planes.

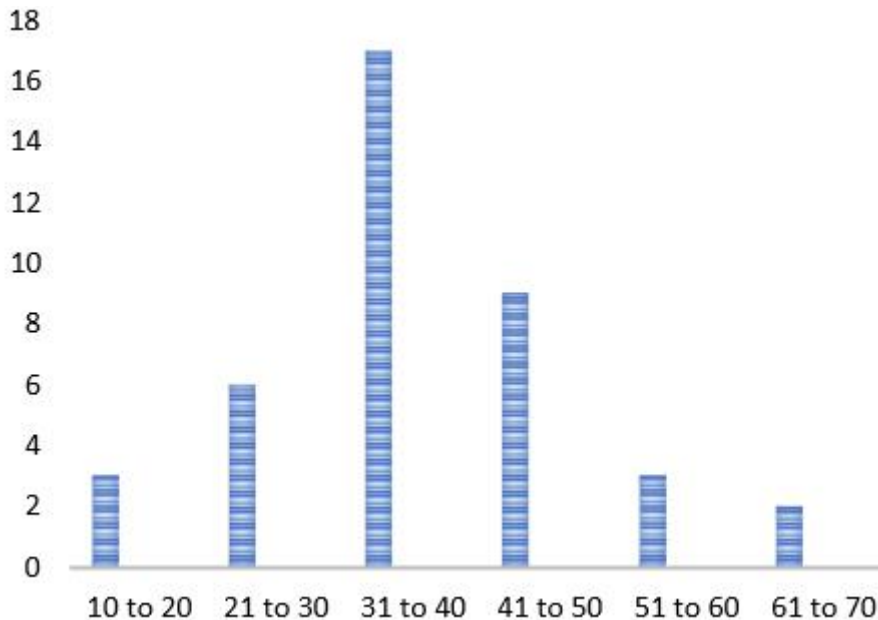
The following sequences were taken:

- a) FSE T1
- b) FSE T2
- c) STIR
- d) FSE T2 fat-saturation
- e) Diffusion weighted image

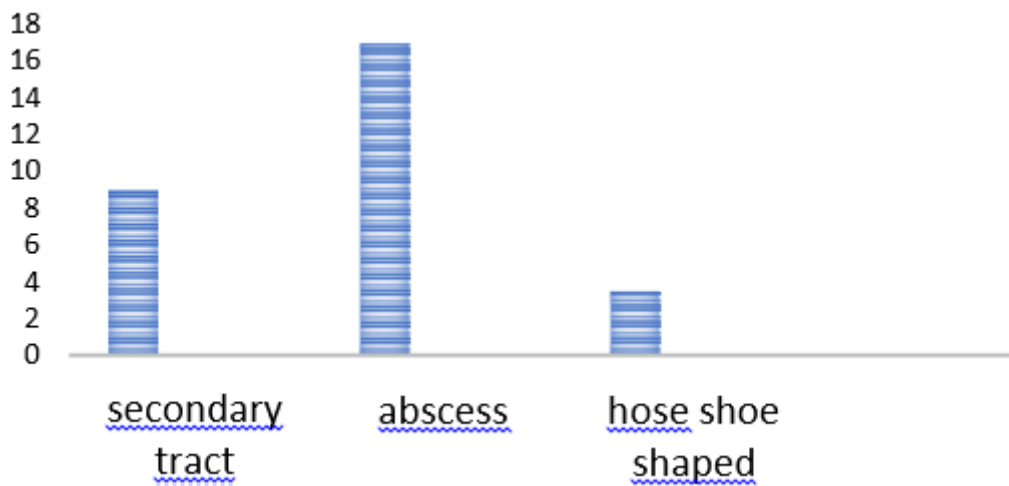
Fistulas were classified using St. James University Hospital classification.

**3. RESULTS**

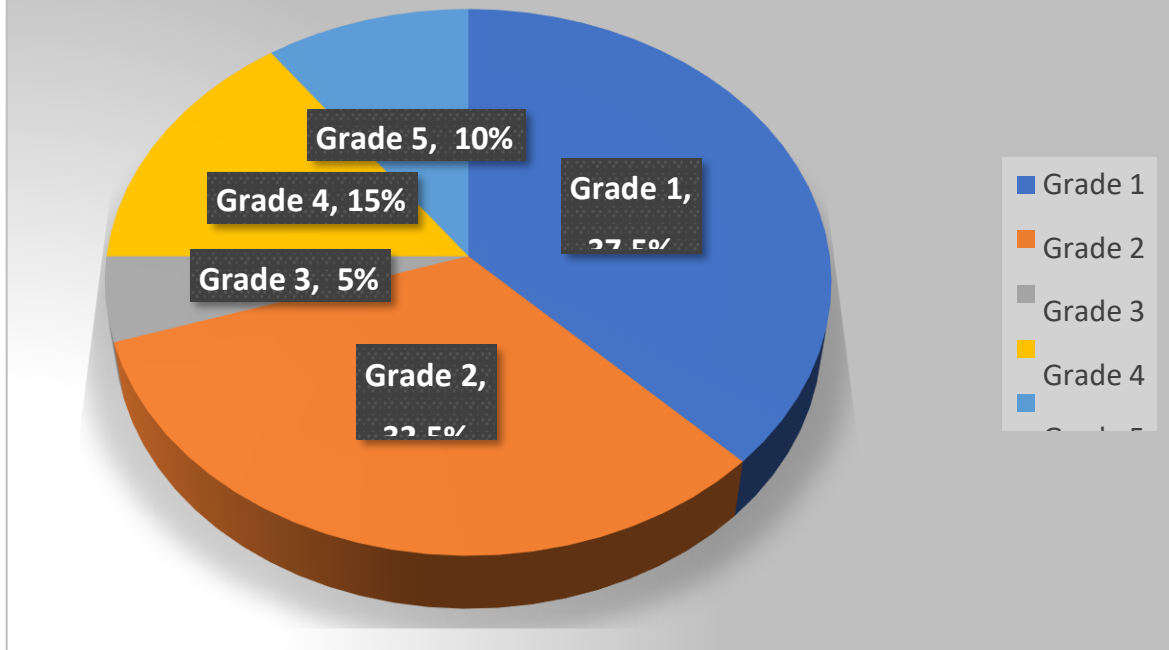
**Age Wise Distribution of Cases**



**Other Findings**



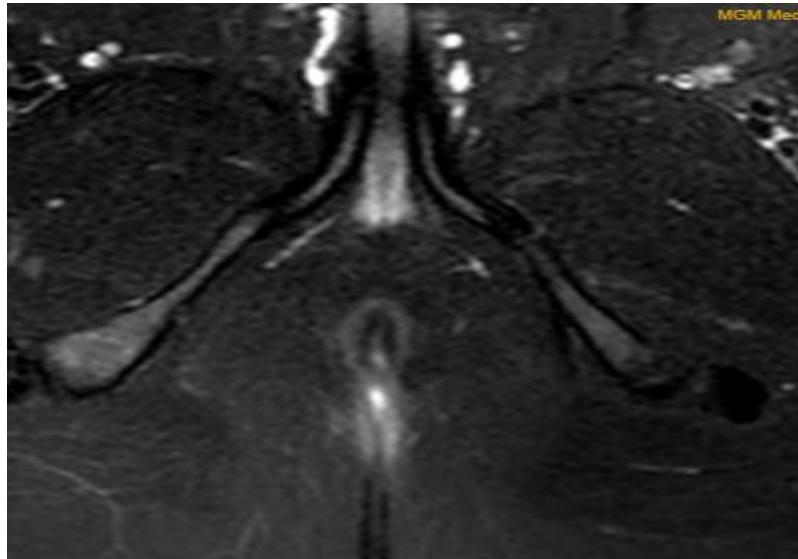
**Distribution of result based on prevalence of various types of perianal fistula in the study.**



**4. DISCUSSION**

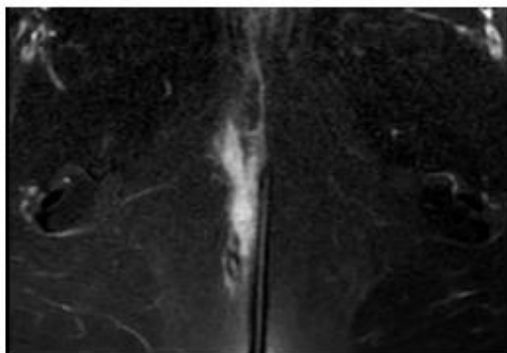
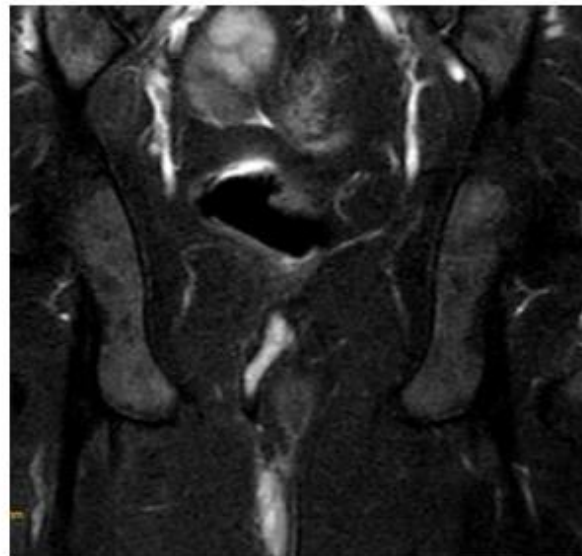
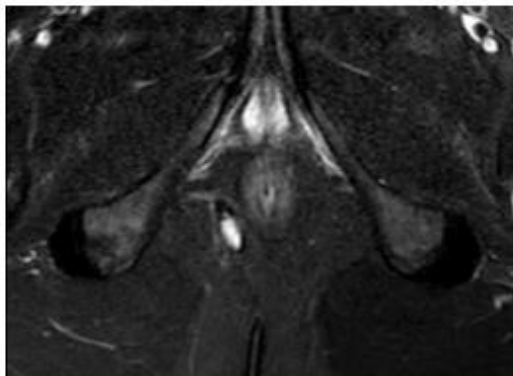
Idiopathic perianal fistulas are thought to result from chronic inter-sphincteric anal gland infections (cryptoglandular hypothesis). Patients typically present with discharge and frequently report pain.

In our study, Grade I fistula were most common, followed by II, IV, V and III respectively.

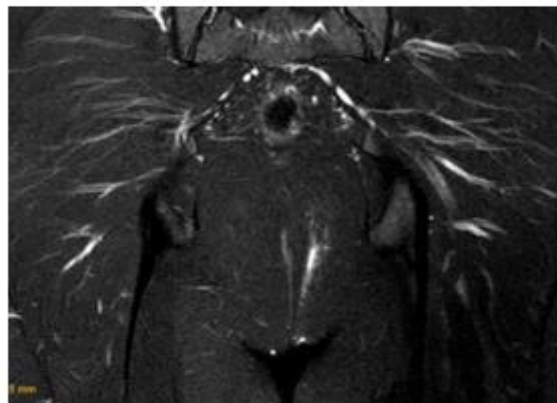
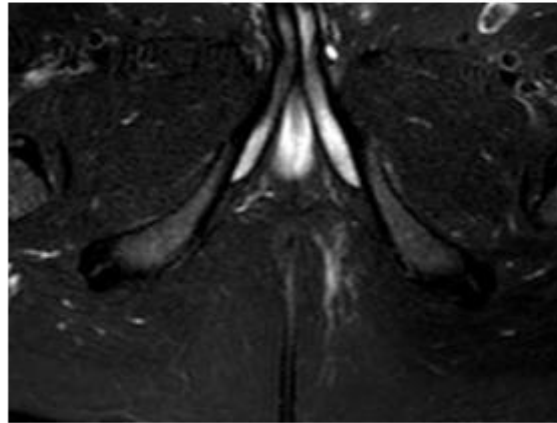


Grade 1: Simple linear intersphincteric fistula.

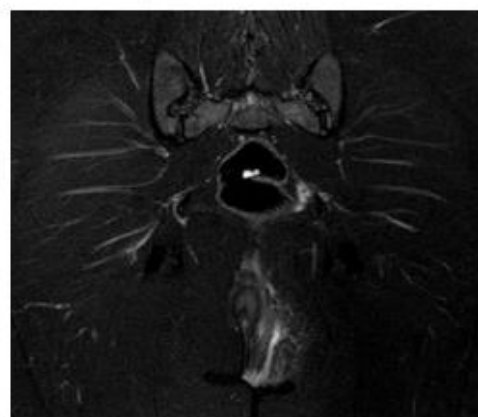
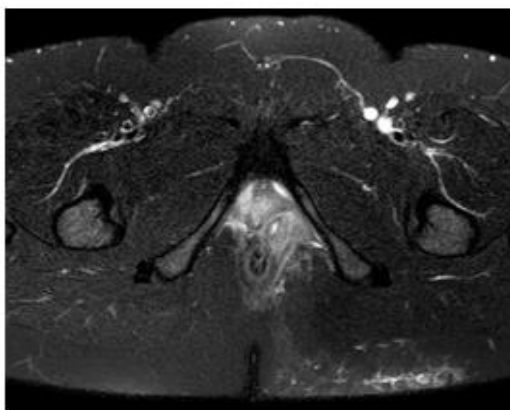
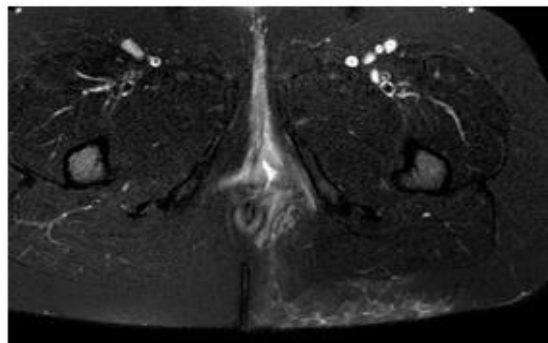
The literature provides inconsistent data on the prevalence of perianal fistula types. However, it is generally agreed upon that Type I is the most common, with Type II being the second most prevalent. Our findings also align with the body of scientific evidence.



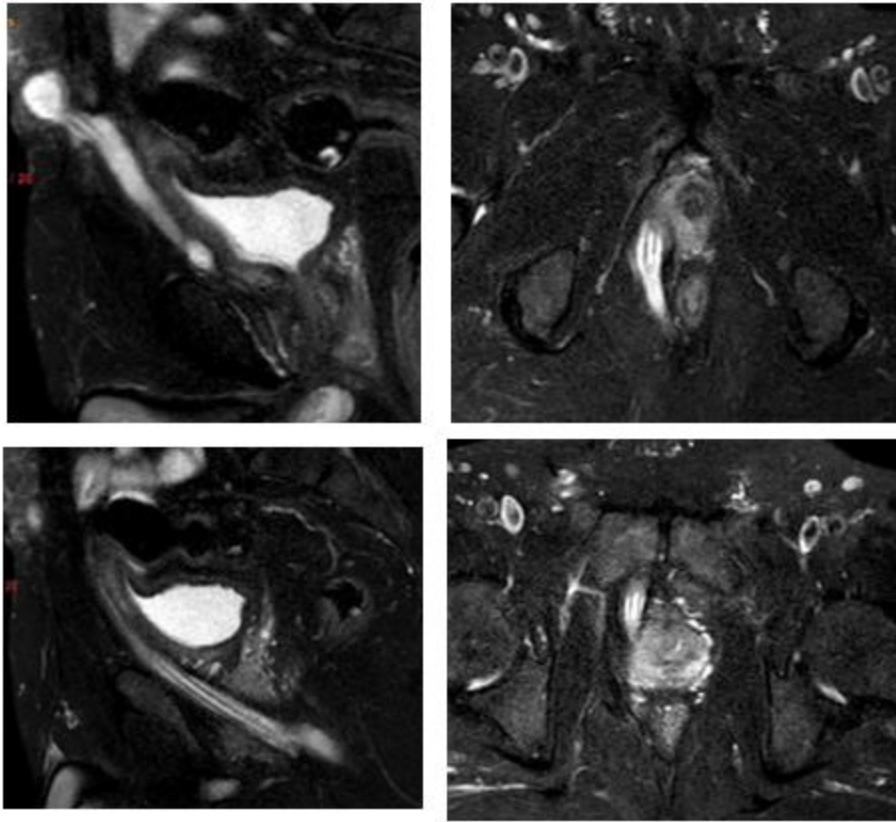
Grade 2: Intersphincteric Fistula with an Abscess or Secondary Track.



Grade 3: Transsphincteric Fistula.



Grade 4: Transsphincteric Fistula with an Abscess or Secondary Track in the Ischioanal or Ischioanal Fossa.



Grade 5: Supralelevator and Translevator Disease.

## 5. CONCLUSION

MR fistulogram plays a crucial role in assessment of perianal fistula. It reliably guides treatment decisions, particularly for fistulotomy and abscess drainage. Thus, MRI remains essential for informed clinical decisions in perianal fistula management.

If the disease is likely confined to the sphincter complex (grade 1 or 2) without obvious involvement of ischioanal and ischiorectal fossae the surgeons can go for simple surgical management.

If there is any track or abscess within the ischiorectal fossa, more complex surgery may be required.

**Key words:** Magnetic Resonance Imaging, Perianal Fistula, St. James university classification.

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