

## CASE REPORT

# Rectovestibular fistula – diagnosis by radiological evaluation: a case report

Bharat Bhushan Sharma<sup>1\*</sup>, Shashi Sharma<sup>2</sup>, Naveen Bhardwaj<sup>1</sup>,  
Sakshi Dewan<sup>1</sup>, Mir Rizwan Aziz<sup>1</sup>

### ABSTRACT

**Background:** Anorectal malformations (ARM) can present in different fashions. Rectovestibular fistula is one of the congenital ARM. There is abnormal connection between the rectum and vulvar vestibule. ARM is called as rectovaginal fistula if it is within the hymen.

**Case presentation:** We present a 7-years old female child who reported of passing feces and gas through the vaginal passage. The child was brought late by the parents because of rural background. She was evaluated by abdomen plain Xray, US, MRI and special investigation by injecting contrast from the common opening. The diagnosis was confirmed as that of congenital recto-vestibular fistula (CRF) by these radiological investigations.

**Conclusion:** Radiological modalities are of great importance for the confirmatory diagnosis of rectovestibular fistula. This further helps in appropriate surgical management.

**Keywords:** anorectal malformation, US, MRI, special investigation, CRF, case report.

### Background

Rectovestibular fistula (RVF) is the communication between rectum and vulvar vestibular part which lies posterior to the hymen. The ectopic anal opening lies in the frenulum of the labia minora. It is important to know the exact anatomical locations of all the orifices in the perineum. In our case, there was imperforate anus and there was common opening for the vagina and rectum (Figure 1).

### Case presentation

A 7 year old female child was brought to the pediatric outpatient department with the history of passing feces and gas through vaginal opening since birth (Figure 2).

There was also history of recurrent urinary tract infection and sometimes passing pus like material from the opening. The child was born in a remote rural region without any accessible obstetric or pediatric

assistance. There was no proper anal orifice at birth. On examination, the child was found to be of average physical parameters without any abnormality in systemic examination.

Local examination of the external genitalia and perineum revealed two openings as that of urethra and vagina along with another small fistulous opening near the vaginal orifice. There was pus like material oozing out of the vaginal orifice along with surrounding inflammation. Anal orifice was absent (Figure 3).

Vital parameters of the child were preserved. The consent of the parents was taken for the investigations of their child. Ultrasound examination was unremarkable and there was no other internal congenital anomaly. MRI of pelvis was done which showed the anatomical detailed relationship (Figure 4).

### Correspondence to:

Dr. Bharat Bhushan Sharma,

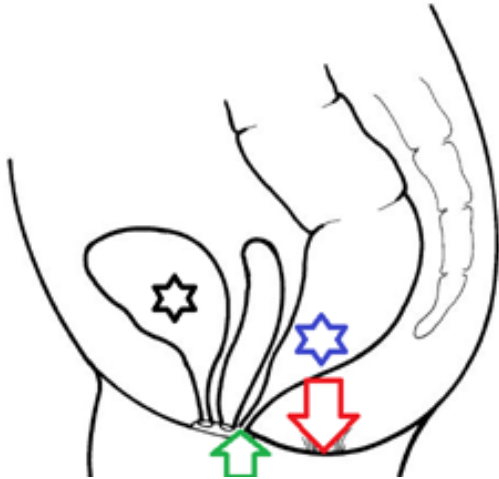
\*Professor & HoD, Department of Radio-diagnosis, SGT Medical College,  
Budhera, (Gurgaon) 122505, India.

Email: [bbhushan986@gmail.com](mailto:bbhushan986@gmail.com)

Full list of author information is available at the end of the article.

There was common opening of rectum and vagina at the perineum. Conventional study was carried out after injecting the contrast in the vaginal orifice which revealed the free flow of the contrast in the rectum

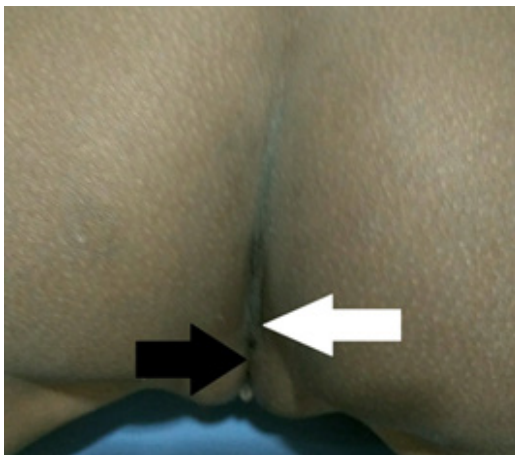
(Figure 5). The diagnosis of recto-vestibular fistula was confirmed with imperforate anus. The child has been planned for pre surgical colostomy which is to be followed by posterior sagittal anorectoplasty (PSARP).



**Figure 1:** Sagittal diagrammatic representation of the rectovestibular fistula in the pelvis and perineal region. Anal orifice is absent at the normal place (red downward arrow) and rectum is opening along with vaginal orifice (green upwards arrow). Urinary bladder (black star) lies anteriorly and rectum on the posterior most location (blue star).



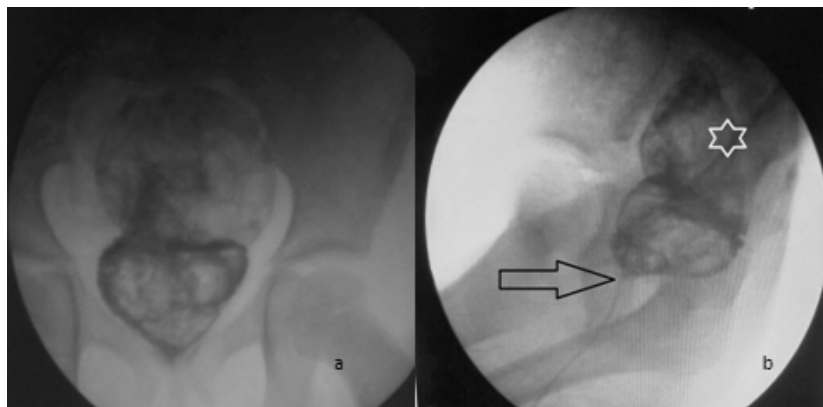
**Figure 2:** Photograph of 7-years old female child with normal look and physical parameters.



**Figure 3:** Photograph of perineum and external genitalia. There is normal urethral orifice on anterior aspect (black arrow) with posteriorly common passage of the vagina and rectum (white arrow).



**Figure 4:** MRI T2W sagittal section of the pelvis region. Urinary bladder (black solid star), uterus (hollow white star) and rectum (white solid star) are seen from anterior to posterior aspect.



**Figure 5:** Conventional study with injection of contrast in the opening, **(a)** antero-posterior view of the pelvis shows opacification of the rectum, **(b)** oblique view shows the entry point with cannula (black hollow arrow) with opacification of the bowel (white star).

## Discussion

Anorectal malformation forms a complex group of anomalies where the baby is born with imperforate anus [1]. Rectum may open at different location leading to different types of fistulous communications. Congenital rectovestibular fistula (CRF) is one of these anomalies. Rectovestibular fistula is found exclusively in females and is of congenital in nature [2]. This is often confused with rectovaginal fistula which is found in less than 1% cases [3]. There is no definitive causative factor noted in this anomaly but the drugs used during pregnancy are thought to be one of the reasons for this anomaly. This may be associated with the sacral spinal or renal anomalies. Anorectal malformations are associated with VACTERL (vertebral, anus, cardiac, trachea, esophagus, renal and limb) anomalies [4].

Radiological evaluation plays a great role in diagnosing these anomalies by different modalities. Plain Xray can tell the details of the bony abnormalities. US (Ultrasound) and MRI further evaluate the rest of associated anomalies. Conventional studies with contrast will exactly highlight the fistulous communication which will decide the course of management. Our case was also diagnosed by injecting contrast in the fistulous opening delineated the communication to the rectum. Three stage surgery would be performed. The surgical management is warranted after the colostomy. Posterior sagittal anorectoplasty (PSARP) is performed as a choice [5–7]. There is always fear of stool incontinence because of the anal sphincter problems.

## Conclusion

Radiology plays an important role in the diagnosis of anorectal malformations. Rectovestibular fistula can be demonstrated in details with the combination of

US, MRI and conventional radiology. This helps in the correction and management of the anomaly.

## Acknowledgements

We are thankful to Mrs. Shilpa Singh, Mr. Nitish Vermani, Mr. Rajdeep, Miss Nikita Khanna and Mr. Roshan Singh for carrying out various radiological investigations.

## List of Abbreviations

ARM	Anorectal malformations
CRF	Congenital rectovestibular fistula
MRI	Magnetic Resonance Imaging
PSARP	Posterior sagittal anorectoplasty
RVF	Rectovestibular fistula
VACTERL	Vertebral, anus, cardiac, trachea, esophagus, renal and limb

## Conflict of Interests

None

## Funding

None

## Consent for publication

Informed consent was obtained from the parents of the patient to publish this case in a medical journal.

## Ethical approval

Ethical approval is not required at our institution for publishing a case report in a medical journal.

## Author details

Bharat Bhushan Sharma<sup>1</sup>, Shashi Sharma<sup>2</sup>, Naveen Bhardwaj<sup>1</sup>, Sakshi Dewan<sup>1</sup>, Mir Rizwan Aziz<sup>1</sup>

1. Department of Radio-diagnosis, SGT Medical College Budhera (Gurgaon), India.
2. Department of Pediatrics, SGT Medical College Budhera (Gurgaon), India.

**Authors' contribution**

BB prepared the draft of the manuscript, SS provided all the clinical details, NB did the investigations work up, SD helped in carrying out radiology investigations and MRA procured the images. All authors revised and approved the final draft.

---

Received: 03 February 2017

Accepted: 26 February 2017

Published online: 01 March 2017

---

**References**

1. Bill AH, Hall DG, Johnson RJ. Position of rectal fistula in relation to the hymen in 46 girls with imperforate anus. *J Pediatr Surg.* 1975;10(3):361–5.
2. Cigarroa FG, Kim SH, Donahoe PK. Imperforate anus with long but apparent low fistula in females. *J Pediatr Surg.* 1988;23(1 Pt 2):42–4.
3. Banu T, Hannan MJ, Aziz MA, Hoque M, Laila K. Rectovestibular fistula with vaginal malformations. *Pediatr Surg Int.* 2006;22(3):263–6.
4. Patil UB, Kavouksorian JK. Unusual imperforate anus. *N Y State J Med.* 1980;80(1):87–8.
5. Sawicka E. Results of surgical treatment of girls with ano-vestibular fistula. *Surg Childh Infrn.* 1995;3(2):94–8.
6. Upadhyaya VD, Gangopadhyay AN, Pandey A, Kumar V, Sharma SP, Gopal SC, et al. Single-stage repair for rectovestibular fistula without opening the fourchette. *J Pediatr Surg.* 2008;43(4):775–9.
7. Kulshrestha S, Kulshrestha M, Singh B, Sarkar B, Chandra M, Gangopadhyay AN. Anterior sagittal anorectoplasty for anovestibular fistula. *Pediatr Surg Int.* 2007;23(12):1191–7.

**Summary of the case**

<b>Patient (gender, age)</b>	1	Female, 7 year old
<b>Final Diagnosis</b>	2	Rectovestibular fistula
<b>Symptoms</b>	3	Vague headache and chest pain
<b>Medications (Generic)</b>	4	Symptomatic medication
<b>Clinical Procedure</b>	5	US, MRI and special investigations
<b>Specialty</b>	6	Radiology
<b>Objective</b>	7	Radiodiagnosis and Pediatrics
<b>Background</b>	8	To find out the cause of passing feces and gas per vaginum
<b>Case Report</b>	9	Imperforate anus with passing of feces per vaginum
<b>Conclusions</b>	10	Cross sectional and conventional imaging for evaluation of rectovesstibular fistula
<b>MeSH Keywords</b>	11	Anorectal malformation, US, MRI, special investigation, CRF, case report