دور الطبقي المحوري والرنين المغناطيسي في تشخيص النواسير البطنية عند مرضى أدواء الأمعاء الالتهابية

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أخصائية في التصوير الطبي والتشخيص الشعاعي

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Inflammatory Bowel Disease

Inflammatory Bowel Disease (IBD) refers to a group of lifelong diseases affecting the intestines. The main types of IBD are ulcerative colitis and Crohn's disease. IBD symptoms come and go. They can range from mild to severe. Most people with IBD can control their symptoms and lead active lives.

Intestinal complications

- **Bowel obstruction:** Narrowing of the intestine due to inflammation and scar tissue can block the flow of digestive contents.
- **Fistulas:** An abnormal tunnel can form between the intestine and another body part, such as the skin near the anus (perianal fistula), a common complication.
- **Abscesses:** Pockets of pus that can form if a fistula becomes infected.
- **Toxic megacolon:** A severe and life-threatening condition where the large intestine swells and stops functioning properly.
- **Anal fissure:** A small tear in the lining of the anus that can be painful and lead to infection.
- **Hemorrhage:** Bleeding from the intestinal lining

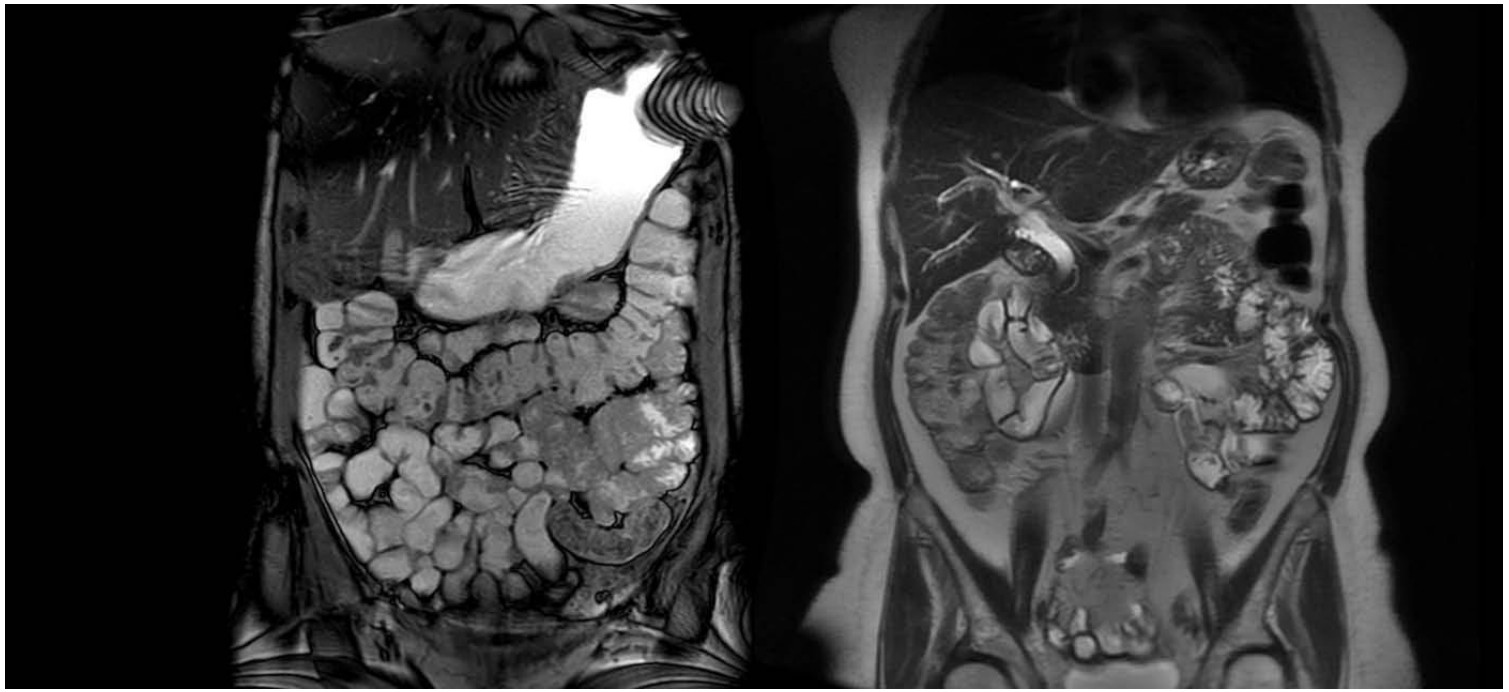
Role of CT and MRI in IBD Fistuliztion

What is CT enterography?

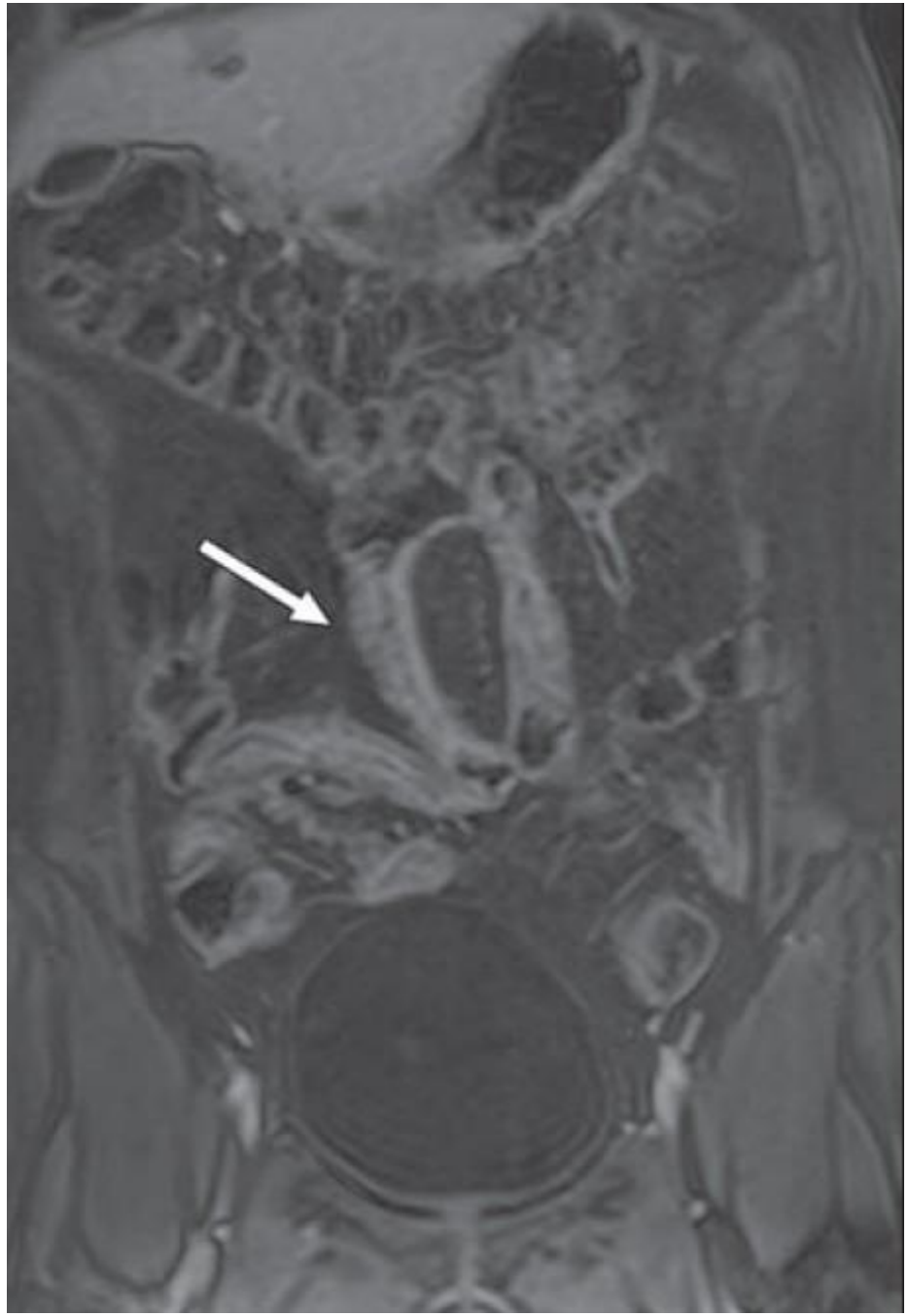
CT enterography is a specialized imaging test that uses a CT scanner, X-rays, and a special contrast material to get detailed images of the small intestine. The contrast is drunk by the patient beforehand to expand the bowel, allowing doctors to find the cause of symptoms like abdominal pain, bleeding, or weight loss. The scan is useful for diagnosing conditions like Crohn's disease, inflammation, or tumors in the small bowel

What is MR enterography?

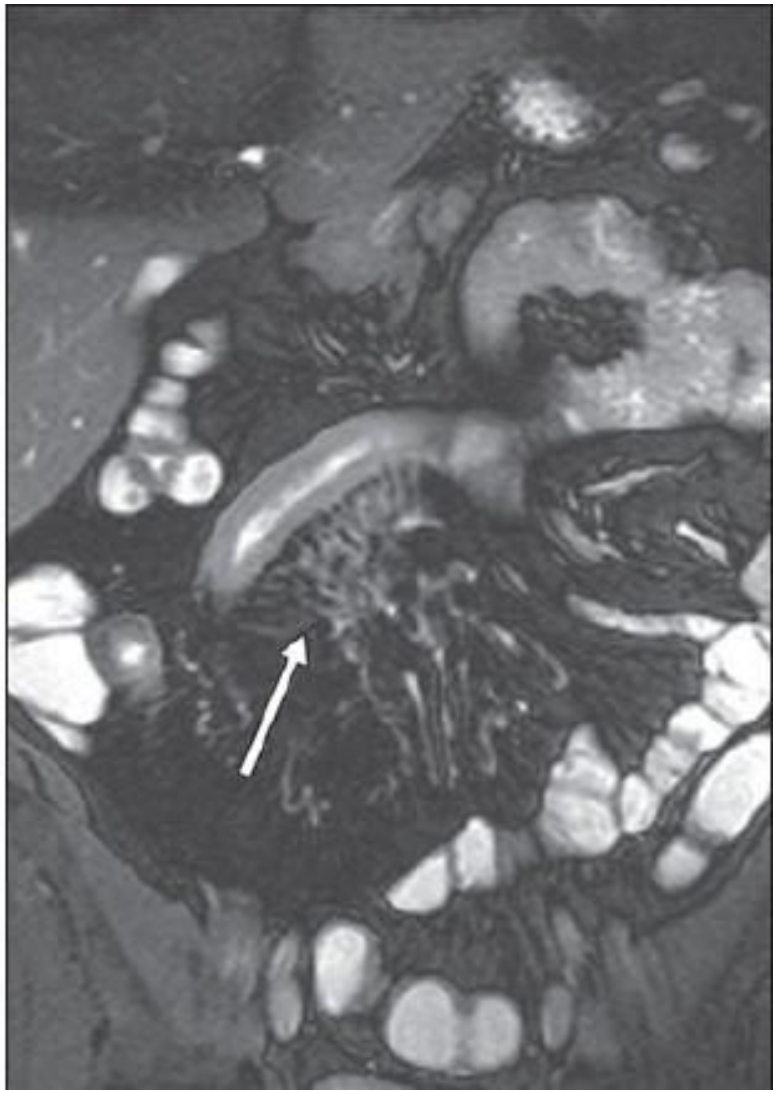
MR enterography is a non-invasive medical imaging test that uses a magnetic field to create detailed pictures of the small intestine to diagnose conditions like inflammation, bleeding, blockages, or tumors. To prepare, patients drink an oral contrast agent to help the small intestine show up clearly on the images, and an intravenous (IV) contrast agent may also be injected during the procedure to further enhance visibility



CASES REVIEW

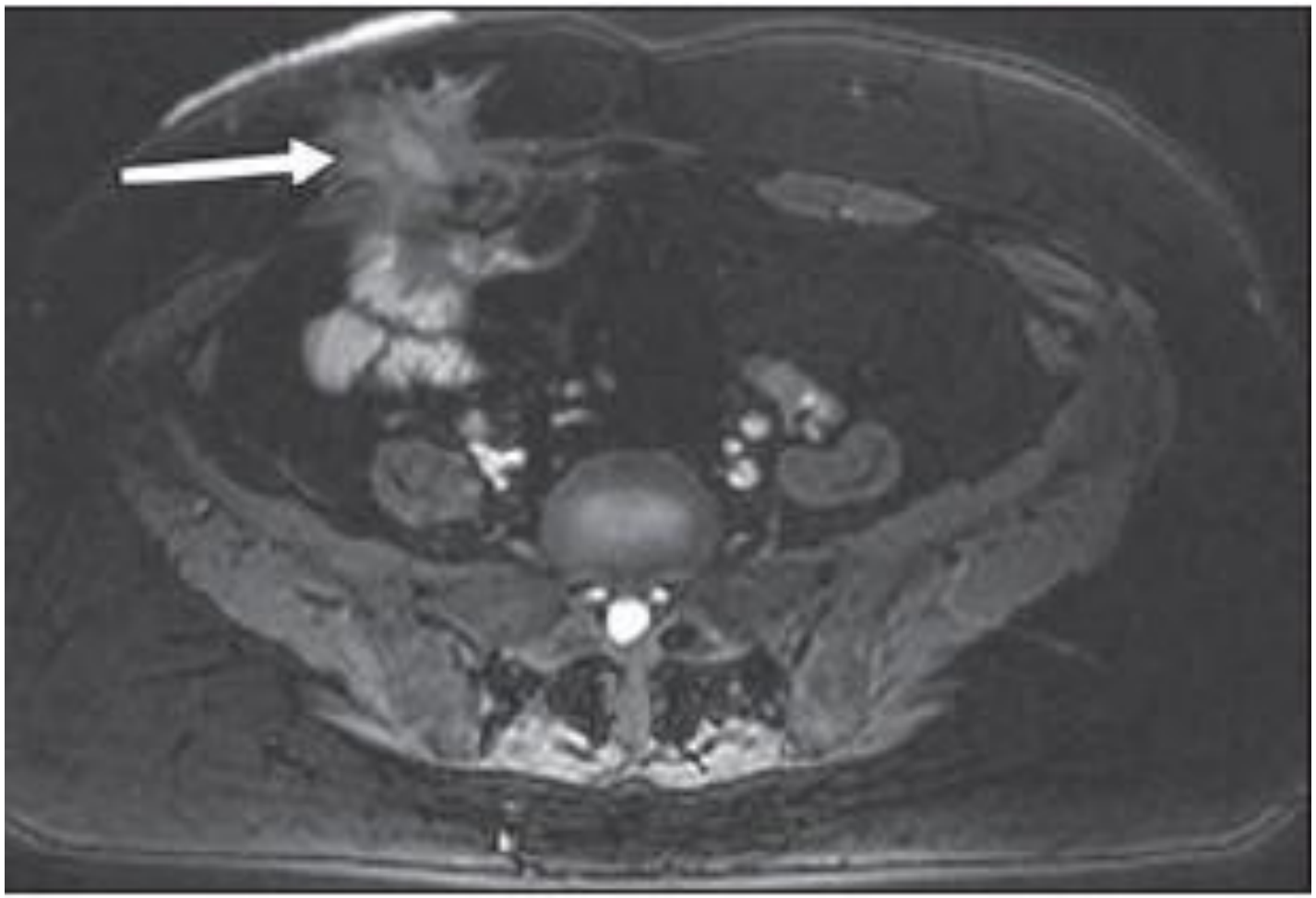


27-year-old man with suspected Crohn disease. Coronal volumetric interpolated breathhold examination image with fat saturation (2.5-mm thickness) shows intense enhancement of inflamed segment of ileum.

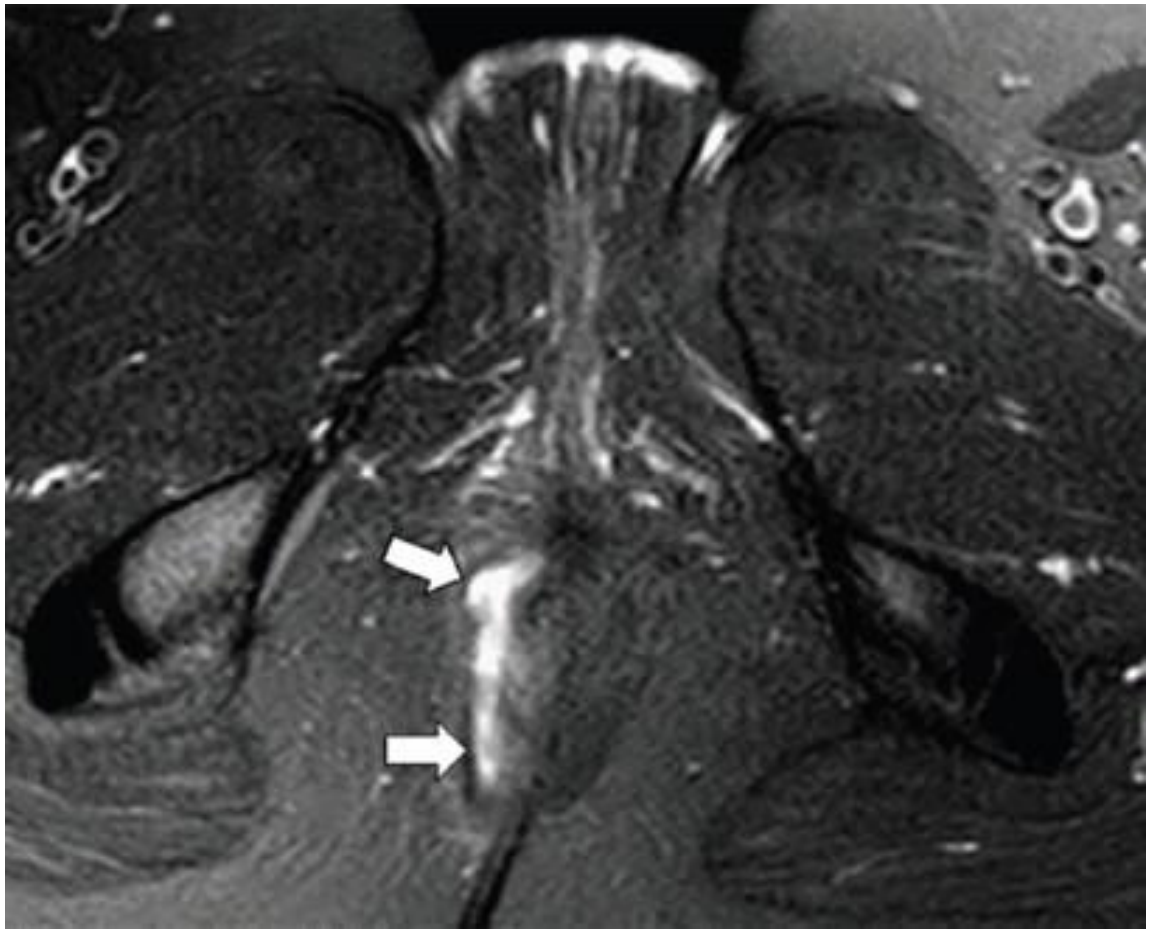


المنظر الوصفي لـ IBD بالرنين المغناطيسي

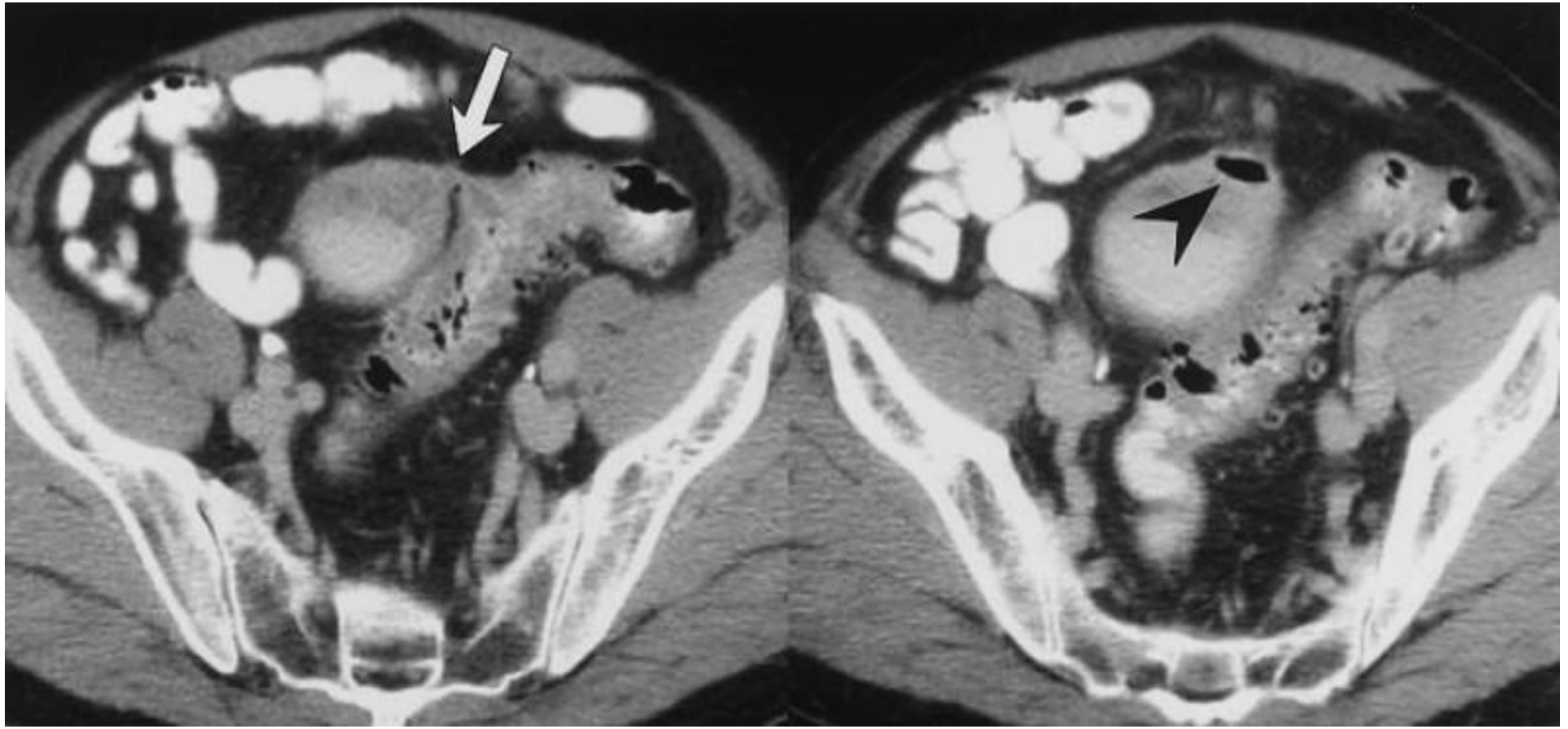
مريض مشخص لديه داء كرون، يظهر في الصورة منطقة تضيق طويل الامتداد في الدقاق الانتهائي مع تبارز لجيب رتجي المظهر من الجدار السفلي الوحشي للدقاق الانتهائي.



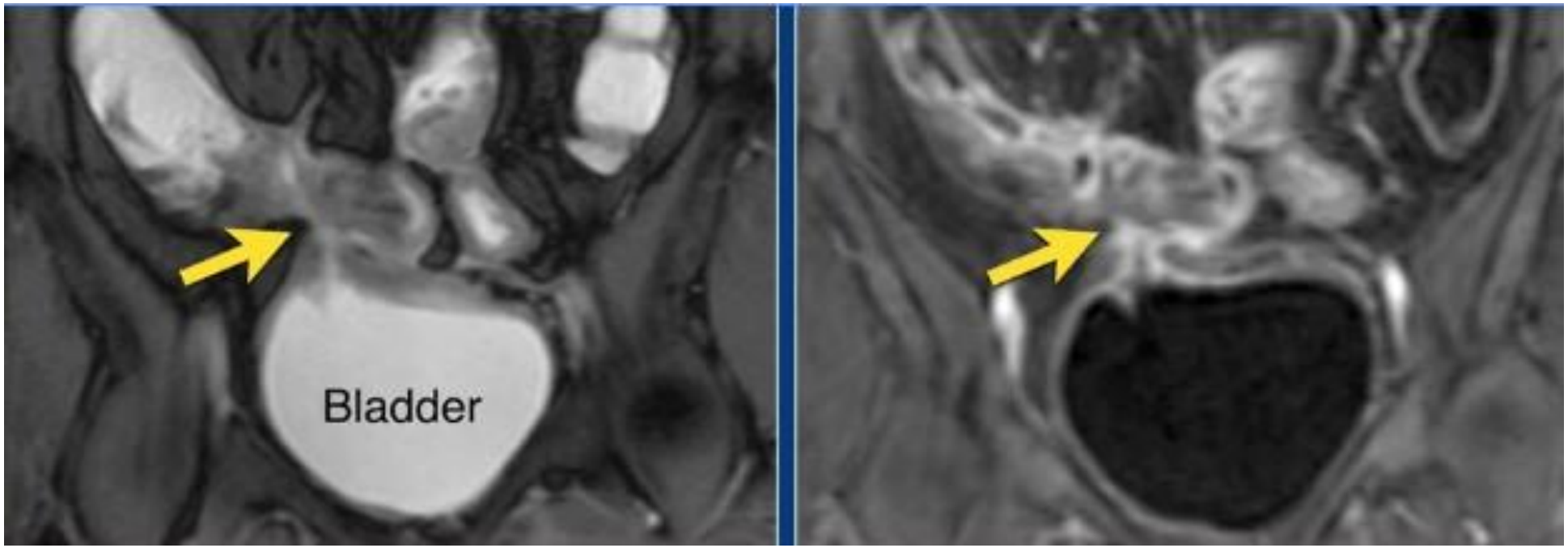
في سوابق المريض جراحة لداء كرون، يظهر في الصورة عيب في جدار البطن الأمامي الأيمن مع علامات تسريب للمادة الظليلة عبر العيب الموصوف (ناسور معوي – جلدي)

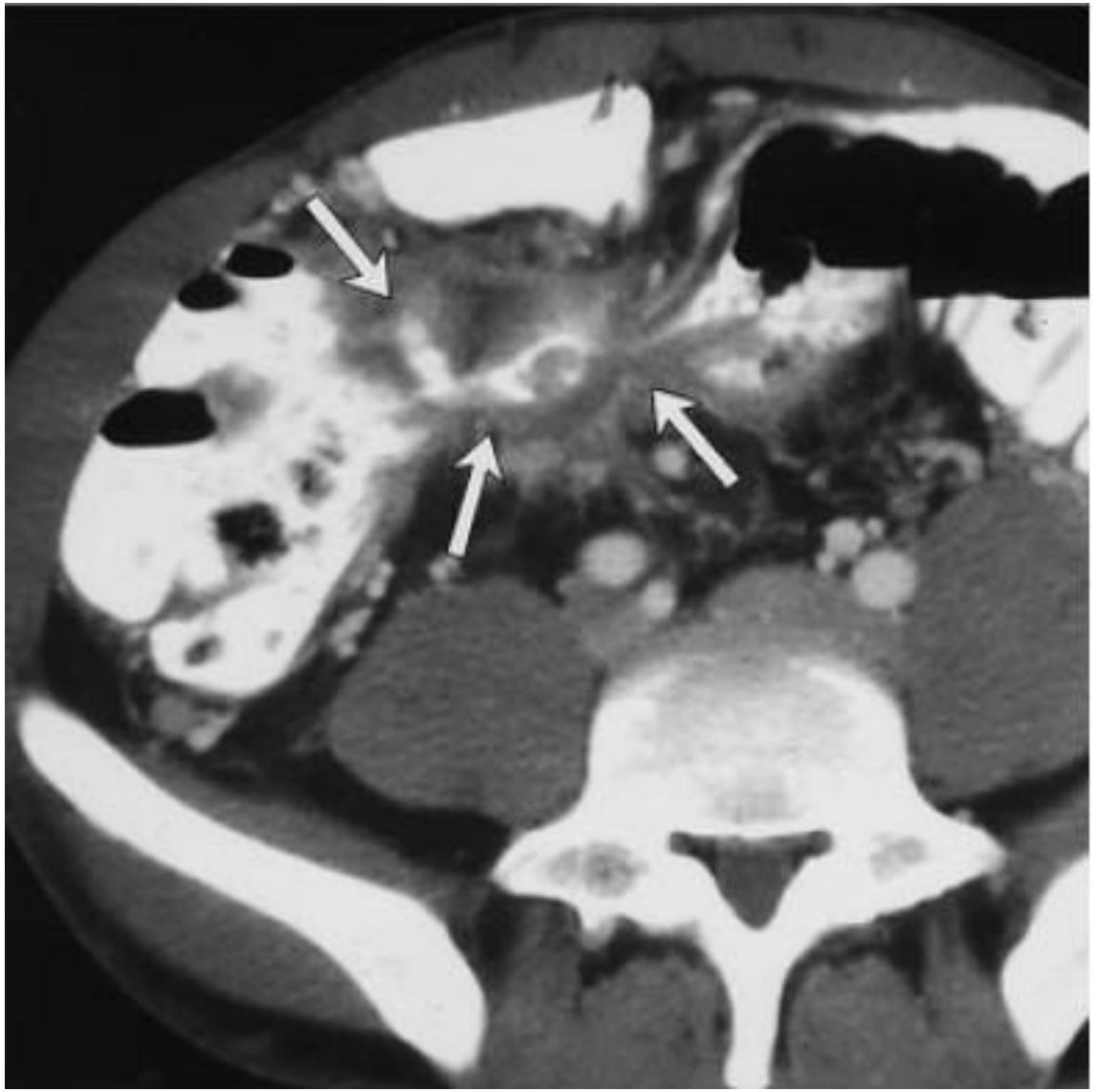


في الصورة المرفقة مرضى لديهم داء كرون مع نواسير شرجية – حول الشرج



مريض IBD مع ناسور
مستقيمي - مثاني


Bladder



مريض IBD مع التصاقات وناسور بين الوصل الدقاقي الأعوري والسين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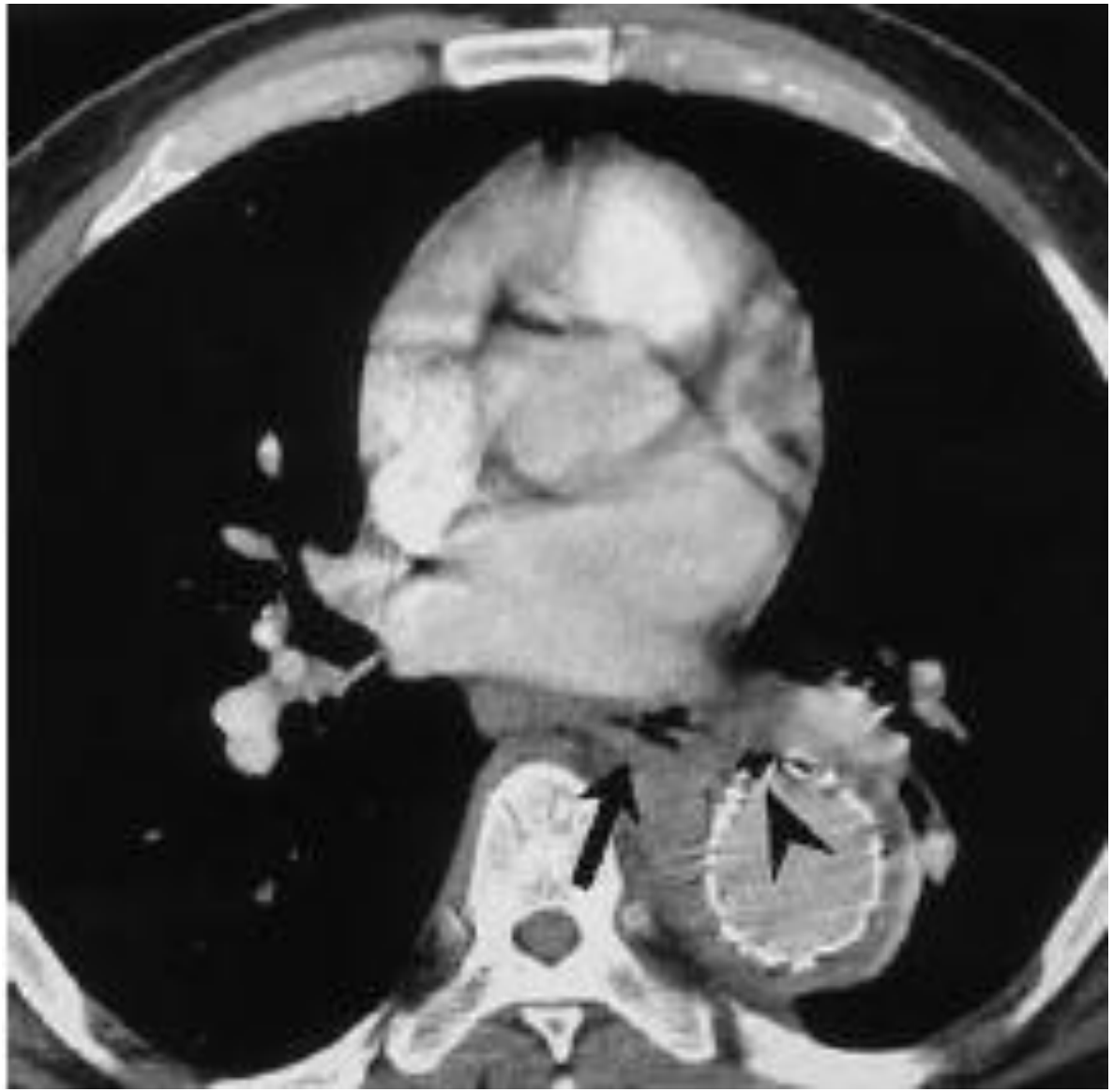
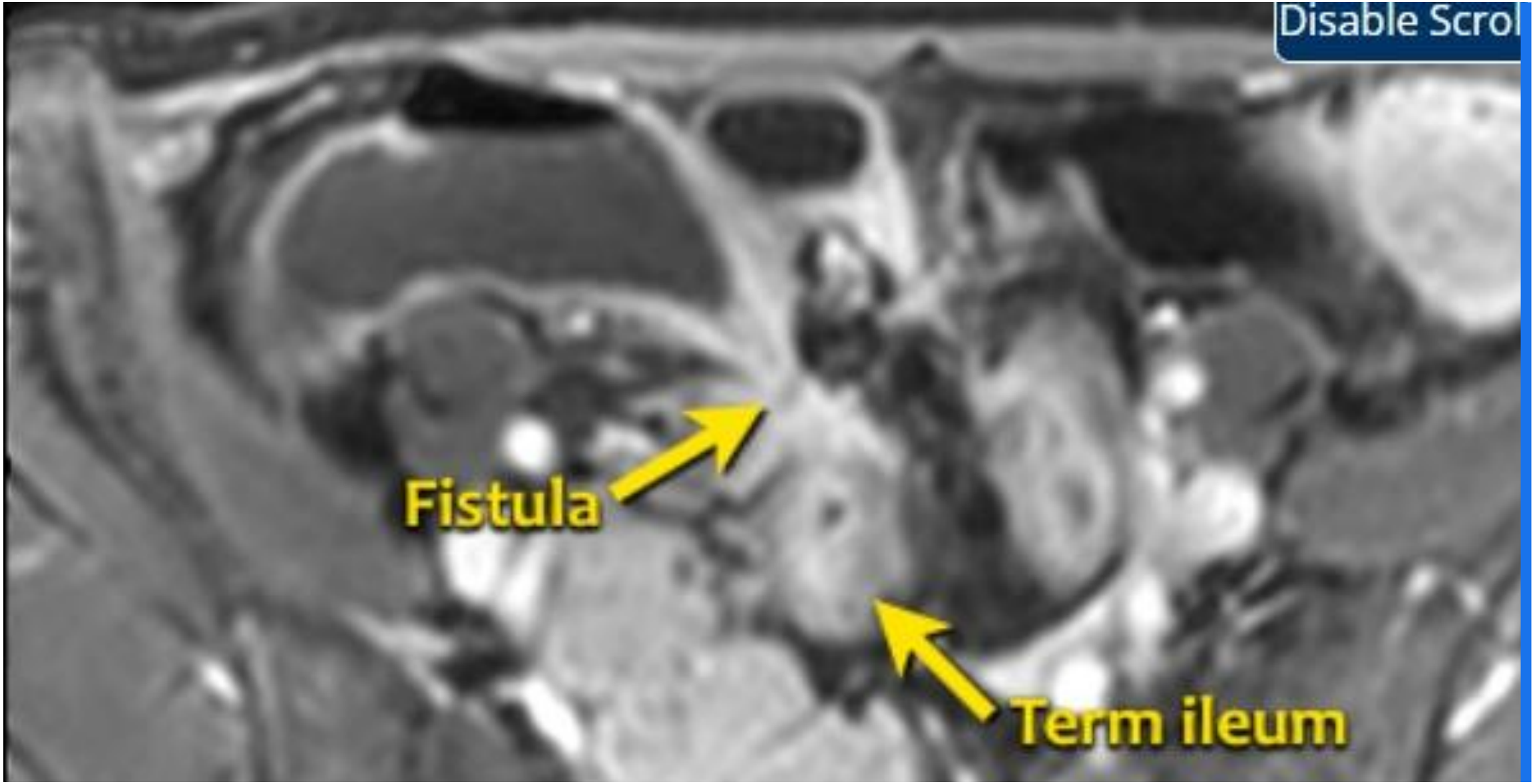


مريض IBD ناسور مريئي – أبهري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TAKE HOME ADVICE

MRI is superior for visualizing IBD fistulas due to its excellent soft tissue contrast, detailed imaging of the fistula tract, and lack of ionizing radiation, making it the gold standard, especially for perianal fistulas. CT is faster and more accessible, which is beneficial for emergency situations to quickly detect abscesses and guide drainage, but it involves radiation and offers less detail for the fistula tract itself.

MRI for IBD fistulas

- **Advantages:**
  - **Superior soft tissue detail:** MRI provides much better soft tissue contrast, allowing for a more detailed visualization of the fistula tract and associated inflammation compared to CT.
  - **Radiation-free:** MRI does not use ionizing radiation, making it ideal for patients who require multiple follow-up scans or are pregnant.
  - **Detailed perianal imaging:** Pelvic MRI is considered the gold standard for assessing perianal disease, as it can precisely map the fistula tunnels and show their relationship to the sphincter muscles.
- **Considerations:**
  - MRI scans are longer in duration, often taking up to 30 minutes, compared to CT scans which are much faster.
  - MRI machines may be less accessible and are typically more expensive.

CT for IBD fistulas

- **Advantages:**
  - **Speed and availability:** CT is a faster and more widely available imaging modality, making it useful in acute or emergency settings.
  - **Good for abscess detection:** CT is effective at identifying and visualizing acute complications like abscesses, which is crucial for emergency management and drainage procedures.
- **Disadvantages:**
  - **Ionizing radiation:** CT exposes patients to ionizing radiation, and the cumulative dose from repeated scans in IBD patients is a significant concern.
  - **Less soft tissue detail:** While it can visualize extraluminal complications, CT is less effective than MRI at showing the detailed anatomy of the fistula tract itself.

Conclusion

- **For initial and routine evaluation, especially for perianal fistulas, MRI is the preferred choice** due to its superior detail and lack of radiation.
- **For acute situations**, such as when an abscess is suspected, **CT is often used for its speed and ability to quickly identify complications** and help guide immediate treatment

The Role of Radiologist in IBD Diagnosis

Radiologists play a crucial role in diagnosing and monitoring inflammatory bowel disease (IBD) by using various imaging techniques like CT, MRI, and ultrasound to provide essential information that complements endoscopic and clinical data. Their work involves mapping the disease's location and extent, identifying complications such as fistulas and abscesses, assessing inflammation versus fibrosis, monitoring treatment response.

Assessing disease extent and location: Imaging helps visualize segments of the bowel that are inaccessible to endoscopy, providing a complete picture of the disease's distribution throughout the gastrointestinal tract.

Identifying complications: Radiologists can detect complications, especially in Crohn's disease, including:

- **Fistulas:** Abnormal tunnels between the bowel and other organs or the skin.
- **Abscesses:** Collections of pus.
- **Strictures:** Narrowing of the intestine, and can distinguish between active inflammation and fibrotic strictures.

Evaluating disease activity: Imaging helps determine the severity of inflammation and can be used to monitor how well a patient is responding to treatment over time.

Diagnosing extraintestinal manifestations: Radiologists can identify IBD-related problems in other organs, such as the liver, kidneys, or joints.

Monitoring treatment response: By comparing images taken over time, radiologists can objectively assess the effectiveness of medical therapies by looking for changes in bowel wall thickening and inflammation.

Providing guidance for intervention: The detailed images created by radiologists are vital for planning surgical or other interventions and for assessing patients in acute situations.

شكراً لحسن الاستماع 🩺

At The END

DON'T MISS CLINICAL CORRELATION

Radiologist after writing: correlate clinically