

Imaging Spectrum of Tumor Perforation and Rupture

A Case-Based Pictorial Review

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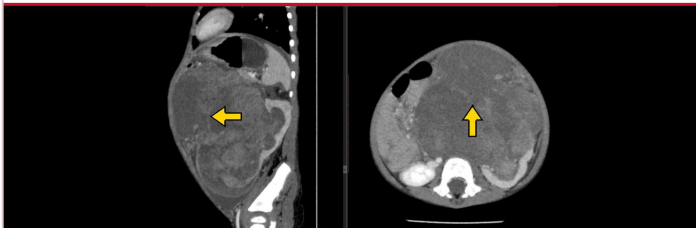
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INTRODUCTION

Tumor perforation and rupture are rare but serious complications of malignancy. They may produce wall disruption, extraluminal gas or fluid, hemorrhage, and localized collections. CT is crucial for detecting these complications and defining their extent. This pictorial review highlights the diverse imaging appearances and key diagnostic features across different tumors.

01 PERFORATED WILMS' TUMOR

CT Abdomen & Pelvis · Axial & Sagittal



- ▶ Perforated **left Wilms' tumor**
- ▶ Forms a dense **intra-abdominal collection**

02 PERFORATED SIGMOID COLON TUMOR

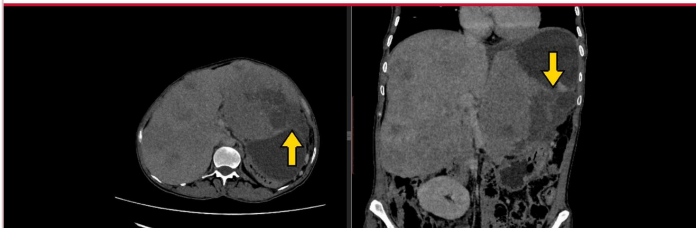
CT Abdomen & Pelvis · Axial & Coronal



- ▶ Right abdominal collection with **air-fluid level**
- ▶ **Massive pneumoperitoneum**

03 PERFORATED HEPATIC METASTASIS

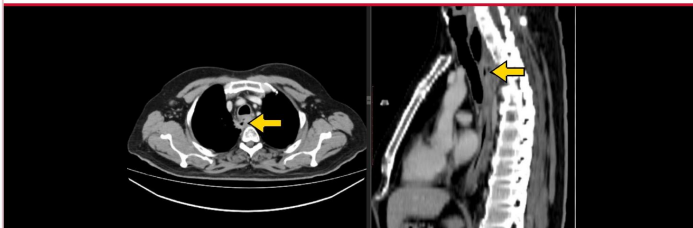
CT Abdomen & Pelvis · Axial & Coronal



- ▶ Perforated **left-sided hepatic metastatic deposit**
- ▶ Primary: **rectal carcinoma**

04 PERFORATED ESOPHAGEAL TUMOR

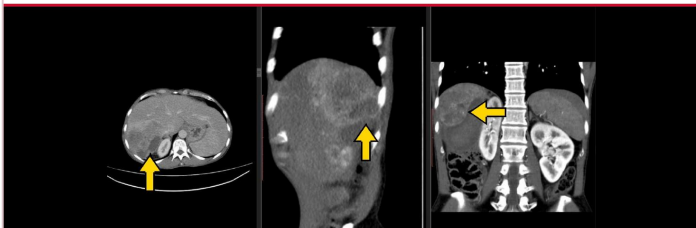
CT Chest · Axial & Sagittal



- ▶ **Concealed perforation** of the tumor
- ▶ A few **extraluminal air locules**

05 PERFORATED HEPATOCELLULAR CARCINOMA

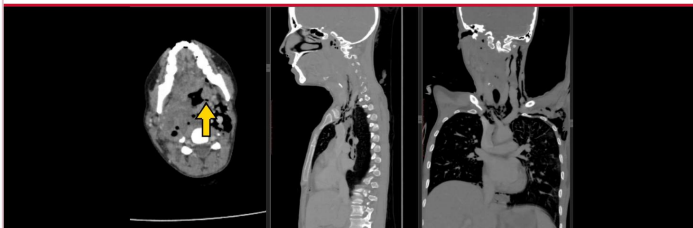
CT Abdomen & Pelvis · Axial, Sagittal & Coronal



- ▶ Perforated **right lobe HCC**
- ▶ **Localized collection** in the upper abdomen

06 PERFORATED HYPOPHARYNGEAL TUMOR

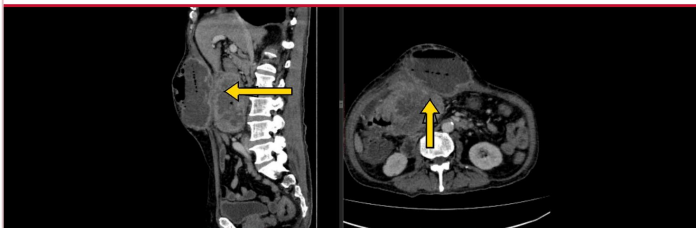
CT Neck & Chest · Axial, Coronal & Sagittal



- ▶ Extensive air locules from tumor perforation
- ▶ **Subcutaneous emphysema & pneumomediastinum**

07 PERFORATED TRANSVERSE COLON TUMOR

CT Abdomen & Pelvis · Axial & Sagittal



- ▶ **Enterocutaneous fistula** formation
- ▶ **Organized collection** in the subcutaneous plane

TAKE-HOME POINTS

- ✓ **Wall disruption** of the tumor is the direct sign of perforation
- ✓ **Extraluminal gas** — air locules, pneumoperitoneum, pneumomediastinum, surgical emphysema
- ✓ **Extraluminal fluid** and **hemorrhage**
- ✓ **Localized / organized collections** and fistula formation
- ✓ **CT** is the key modality to detect the complication and define its extent