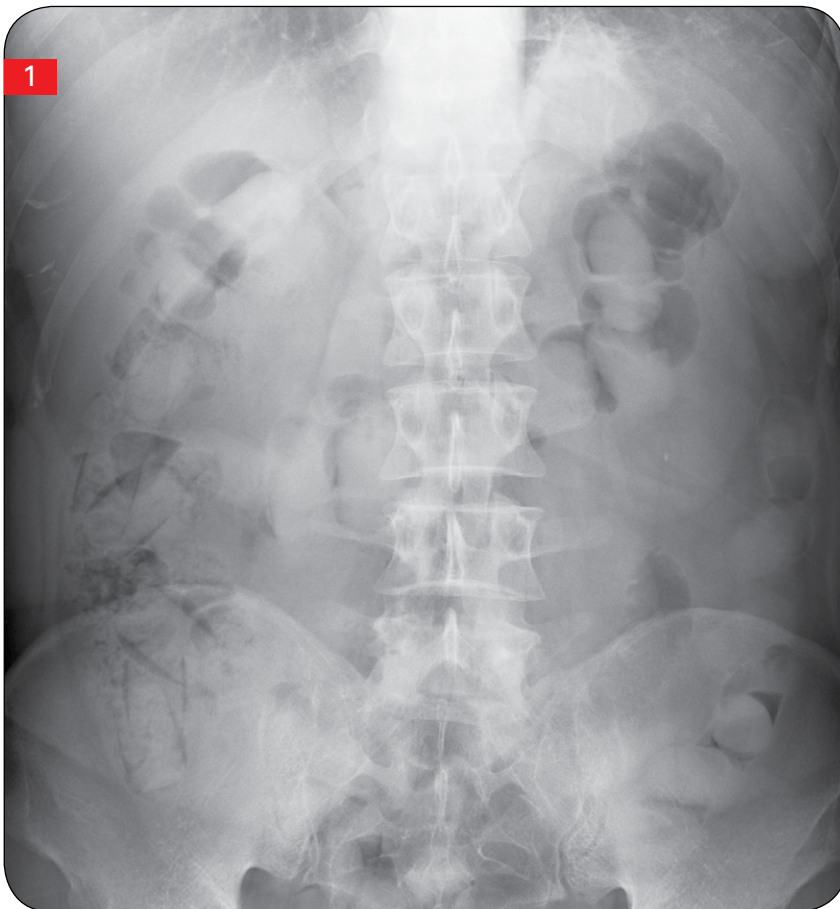


PROBLEM

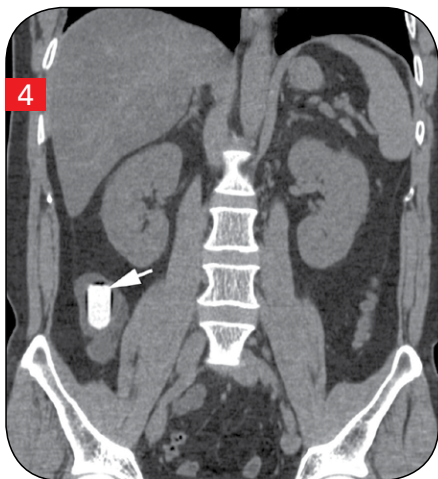
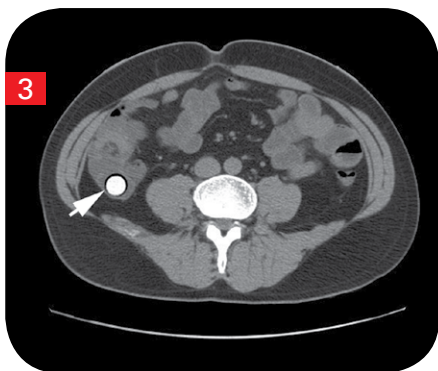
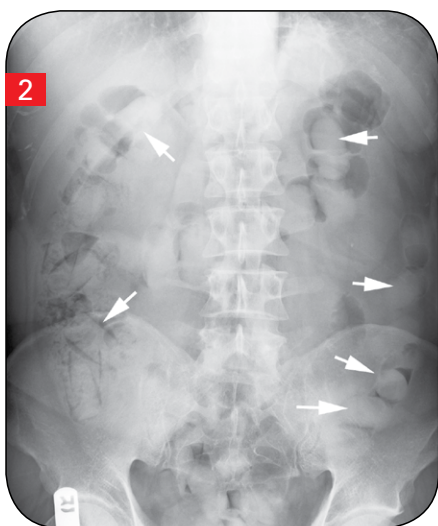


>> A 32-year-old man is brought to the ED by law enforcement officials after being detained at the airport. He is asymptomatic; however, on examination of the abdomen, multiple hard objects are palpated. An abdominal radiograph is obtained (Figure 1).

What is your diagnosis?

Turn page for answer >>

ANSWER



>>The radiograph shows multiple oblong, uniformly shaped foreign bodies (white arrows, Figure 2) surrounded by lucency within the gastrointestinal tract. These are consistent with ingested material and, in this patient, represented ingested heroin-filled packets. The radiolucent line, known as the *double-condom sign*, is formed by air trapped between two layers of latex. Other radiographic signs that occur with ingested drug-filled packets are the *rosette sign*, which is formed by air in the tied ends of the wrapping material, and *parallelism*, a recently described phenomenon in which rigid packets align parallel to each other in the bowel lumen.¹ Although uncommon, parallelism was found to be highly specific when present. It was also found that when more than one of the aforementioned signs is seen concurrently on plain abdominal radiography (AXR), the specificity of the diagnosis increases.¹

AXR is the preferred initial screening examination for suspected ingestion of drug-filled packets, with sensitivity estimated at 85% to 90%.² False-positive findings due to bladder stones, intra-abdominal calcifications, and constipation have been reported. Abdominal CT or barium-enhanced radiography may be performed after a known ingestion to guide surgical intervention or to verify clearance of all packets. However, if AXR is negative and there is a high index of suspicion, abdominal CT or barium-enhanced radiography should be ordered, as these modalities may show drug packets in the bowel that are not identified on AXR. On CT, drug-filled packets appear as foreign bodies encircled by a rim of gas (white arrows, Figures 3 and 4), and on barium-enhanced radiography they are seen as filling defects.

Most persons with ingested packets are asymptomatic and referred to physicians by law enforcement officials for evaluation, management, and packet retrieval. However, in some cases, patients may present to physicians with symptoms related to gastrointestinal obstruction or drug packet rupture. Both complications are potentially fatal if the underlying diagnosis is not determined promptly.

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