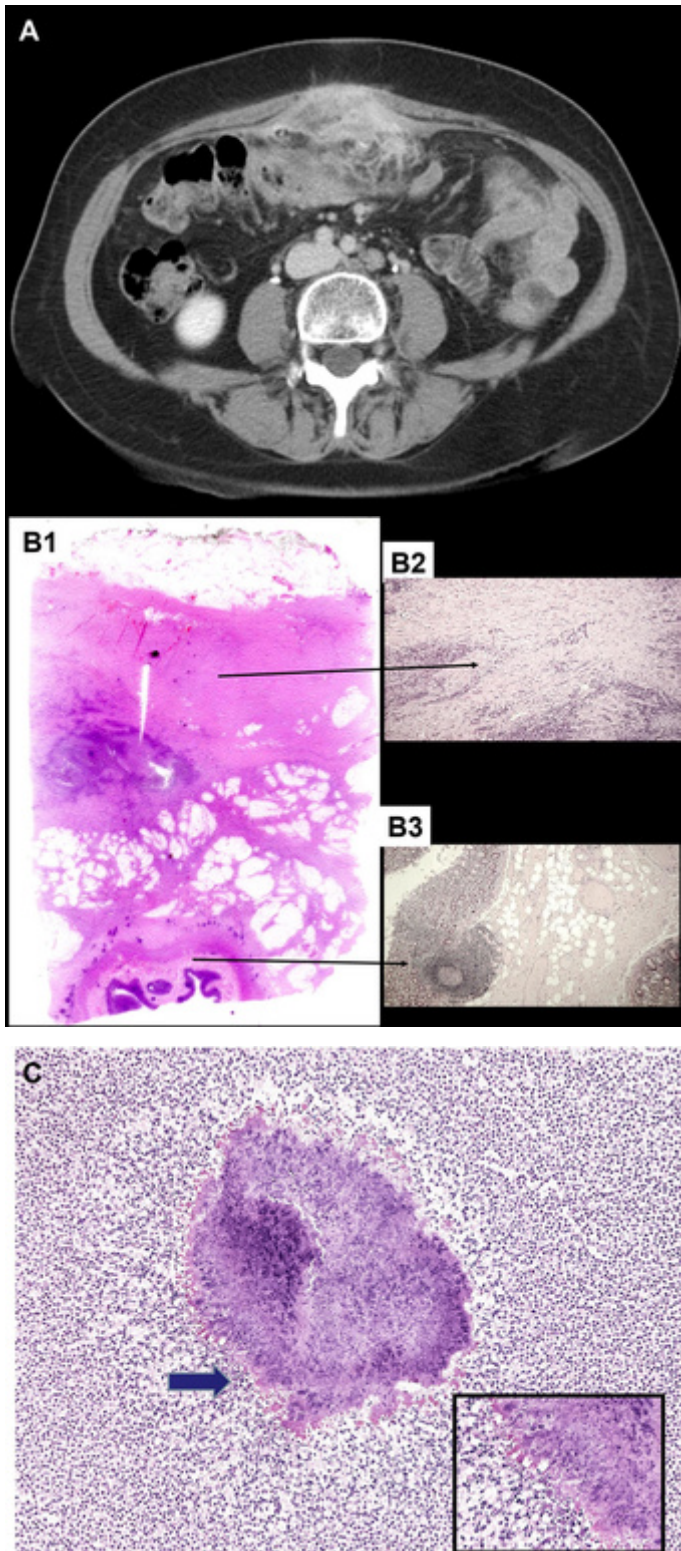


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Abdominal mass in a 69 years old woman 15 months after a mild abdominal trauma.

What is your diagnosis?



Diagnosis:

Invasive *Actinomyces israelii* infection.

## Comment:

A 69-year-old woman presented with abdominal pain of fluctuating intensity and alternating episodes of diarrhea and constipation. Her past medical history was unremarkable with the exception of a mild trauma to the abdominal wall (punched during a robbery attempt) 15 months before without detectable or suspicious findings at the time. Physical examination revealed a retro-umbilical tender, movable mass. Abdominopelvic CT scan (Figure A) showed an 8 cm solid and cystic mass involving intestinal loops and soft tissue of the abdominal wall. The mass was surgically removed. Pathological exam revealed a firm fibro inflammatory mass with variably sized necrotic and cystic abscesses in perivisceral soft tissue (figure B with insets B1 and B2 highlighting the fibroinflammatory nature of the mass and the unremarkable small intestine wall). Direct involvement of the bowel could not be demonstrated. So-called “sulfur” granules were present in the inflammatory infiltrate consisting of clusters of filamentous bacteria laced by “Splendore-Hoeppli phenomenon” a rim of club-like, eosinophilic projections of proteinaceous material (mainly immunoglobulins) (Figure C, inset is a higher magnification of the arrowed area).

The lesion likely followed an undiagnosed hollow viscus injury after mild trauma to the abdomen. Actinomyces colonization is relatively common in the gut but invasive actinomycosis is rare. Sources of abdominal invasive infection due to this Gram-positive (but also GMS- and Warthin-Starry-positive) anaerobic filamentous organism are intestinal ulcers, penetrating injury, surgery, neoplasia, diverticulosis, intrauterine device, inflammatory bowel disease.<sup>1</sup> A specific portal of entry is hardly ever identified. Invasive abdominal actinomycosis with single mass formation can cause obstruction, fistulae, and infiltrate organs mimicking malignancy. Granulomas, transmural inflammation of viscera, architectural distortion of mucosa can be present in the individual case. Clinical symptoms and radiological findings are non-specific. Cytological and/or histological diagnosis are needed for diagnosis since microbiological culture is often unhelpful to identify Actinomyces due to the prolonged incubation time and relative insensitivity.<sup>1-3</sup> Awareness of this presentation of abdominal actinomycosis is important as the disease requires prolonged antibiotic therapy, diagnosis may prevent unnecessary surgical treatment and because it underscores another management issue of hollow viscus injury.<sup>4</sup> The patient was treated postoperatively with drainage and intravenous antibiotics with a complete resolution in 6 months.

## For further reading:

- › Acevedo F, Baudrand R, Letelier LM, et al. Actinomycosis: a great pretender. Case reports of unusual presentations and a review of the literature. *Int J Infect Dis.* 2008;12:358–62.
- › Bonnefond S, Catroux M, Melenotte C, et al. Clinical features of actinomycosis: A retrospective, multicenter study of 28 cases of miscellaneous presentations. *Medicine (Baltimore).* 2016;95(24):e3923.
- › Hildyard CA, Gallacher NJ, Macklin PS. Abdominopelvic actinomycosis mimicking disseminated peritoneal carcinomatosis. *BMJ Case Rep.* 2013; pii: bcr2013201128.
- › Bege T, Brunet C, Berdah SV. Hollow viscus injury due to blunt trauma: a review. *Journal of visceral surgery,* 2016 in press, <http://dx.doi.org/10.1016/j.jviscsurg.2016.04.007>.

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