

Clinical Challenge 1:

A 16-year-old boy, whose mother is an endoscopy nurse in your hospital, has been referred to your clinic by his General Practitioner. He reports “very embarrassing loud noises in the stomach” that are worse after eating. He has no abdominal pain, his appetite is good, and he feels well without any other symptoms. On questioning, he admits that he has lost about 12 pounds in the past six months, which he attributes to skipping meals because of a very busy schedule. He also reports an intermittent, sudden feeling of “warmth” and is concerned about his thyroid gland, especially because his mother had Graves’ disease. Physical examination reveals mild periumbilical tenderness and hyperactive bowel sounds. Rectal examination is normal, but he is heme occult positive. Laboratory testing that was performed by GP in a different hospital laboratory revealed all levels including thyroid-stimulating hormone to be normal, but the patient wonders if there was a laboratory error. You have performed an upper GI endoscopy and ileo colonoscopy and these were normal.

1. What is the diagnosis?
2. Describe the diagnostic work up for this condition?

The answer is **carcinoid tumor**.

1. Peri umbilical tenderness, borborygmi in association with weight loss, sudden feeling of warmth and heme positive stools make carcinoid tumor the most likely diagnosis, considering the normal blood tests and endoscopic investigations.
2. Small bowel imaging with MR or barium would be the next investigation. Positron Emission Tomography is a useful investigation in this setting.
3. Carcinoid tumor is not very common in young people. JPGN has published a case series of 19 patients in 19 years of experience from a centre in Greece. **JPGN 2010;51(95):622-5**
4. Journal of clinical oncology has published a good case series (both adults and children) of 35825 cases in the United States. **J Clin Oncol 2008;26(18) 3063-72**
5. A good review on intestinal carcinoid can be accessed in [Medscape](#)