

Imaging diagnosis

Case 429

3. Dietary ileus (Rice cake, Mochi)

【Progress】

He was left under watchful observation until abdomen symptoms relieved, resulting in natural resolving.

【Discussion】

Mochi (Rice cake) is composed of starch that is energy storage of plants (Glycogen is energy storage for animals). There is a question why mochi that is a starch mass, has appeared with high CT values that can be 200 HU or greater (1-3), while CT values of glycogen of the liver are around 50HU. In fact, CT value of our mochi case was 210 HU. The answer is that mochi is composed of high molecules of multi-glucose and present in a condense condition, namely solid, while glycogen is composed of more-glucose but sparsely present, namely solution. Starch that is categorized into Amylose and Amylopectin. Amylose is composed of simple linear structure with multi-glucose, while Amylopectin, branch-structure of multi-glucose, indicates that Amylopectin has more multi-glucose with more high molecules than Amylose. Thai land rice, which is dry and non-sticky, is composed of pure Amylose, while Japanese rice, called ordinary rice, Urrutia rice that is mixed with Amylose and Amylopectin, and Mochi rice that is composed of pure Amylopectin, are waxy or sticky.

Japanese have a habit to eat rice cake, mochi, to celebrate coming new year in January. Then, dietary ileus with mochi ingestion is often encountered in January of Japan. Especially, aged people with lack of teeth swallow rice cake without chewing. Organic abnormality such as bowel stenosis due to tumor or post-surgical anastomosis, bowel paralytic food can cause dietary ileus.

The occlusive site of dietary ileus commonly occurs at the site of ileum, within 100 cm distance prior to ileum end. This is simply because the diameter of ileum is smaller than that of jejunum. Further the presence of Bauhin valve induces the stagnant of dietary movement.

The foods that cause dietary ileus are Konyaks (yam cakes), mochi (rice cake), seaweed and mushrooms (4-6). Of these, Moti appear as high attenuation mass, while seaweed appears as bubbly mass and impaction that is enlarges with fluids, and mushrooms appear as low density and impaction.

In our case, he swallowed rice cake without enough chewing, inducing dietary ileus. Food content corresponded with rice cake was found in duodenum and ileum as high density is depicted on CT. As time passed, his symptoms of abdominal pain and vomiting abated without serving surgical treatment.

【Summary】

We presented a seventy-nine-year-old male with nausea and vomiting after dinner of Japanese boiled water Nabe cuisine in our hospital.

Small bowel ileus impacted with high attenuation dietary of rice cake was depicted on abdomen CT. It is borne in mind that the reason why rice cake causes high attenuation is that rice cake is starch composed of pure amylopectin, high molecules of branched multi-glucose in a condition of condensed solid.

【References】

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2026.4.10