

Imaging diagnosis

Case 448

3. Dietary ileus

【Progress】

She received open surgery with small length incision that revealed dietary ileus. The obstructive dietary content was Shiitake mushroom.

【Discussion】

Small bowel obstruction take place in several situations such as strangulation ileus, adhesive ileus, paralytic ileus, internal hernia, external hernia, and dietary ileus. Dietary small bowel obstruction depends on the quality of food that inflates with absorption of water and the quantity of food mass that is swollen without enough mastication for tooth deficiency. The causative food for dietary ileus is reported to be chicken, mochi, konjac, lotus root, persimmon, kelp, burdock root, mushroom (Shitake) and so on (1).

These foods are predominantly obstructed in the distal ileum rather than jejunum probably because the diameter of ileum is narrower than that of jejunum. Further, peristalsis momentum of ileum is weaker than that of jejunum. Furthermore, the presence of Bauhin valve interrupts the flow of food and induces the delay of content flow. It is reported that the dietary ileus occurs at the site within 100cm from ileum end (2-7).

It is imperative to check the small bowel occlusion site of small bowel to gain insight of what causes ileus. The signs of beak sign, knot sign, whirl sign, small bowel feces sign, closed loop sign are useful to identify the occlusive site. In case of dietary ileus, bubbly mass and impaction sign is characteristic (5). The babble or air accumulation in the content or surrounding the content is usually found at the occlusion site in dietary ileus. The air bubble originates from occlusive food itself or gas formation in the food during the process of digestion.

In our case, small bowel obstruction whose occlusion site was ileum in the pelvic space was associated with bubbly mass containing air bubble inside and surrounded by air collection outside at its occlusive site. The open surgical treatment revealed the responsible mass was raw shiitake without enough mastication. The patient denied to swallow mushroom or konjac without chewing before surgery. However, after surgery she confessed that her husband liked mushroom so much, while she disliked mushroom and then, swallowed them without masticating enough.

It is reported that CT values of shiitake are changing: those of raw shiitake are – 500 HU or less, sauteed shiitake, -200 to -500, boiled shiitake, +30 to +50 (2). It is considered that air collection containing in raw shiitake is evaporated by heat, inducing to decrease CT values. In our case, air collection in the content mass and surrounding mass at the occlusive site of small bowel obstruction, was demonstrated on CT, not contradictory with dietary ileus, reaching proper diagnosis of mushroom ileus.

【Summary】

We presented a seventy-year-old female with persistent abdominal pain. Babbly mass at the occlusion site of small bowel obstruction is depicted on abdomen CT, leading proper imaging diagnosis of dietary ileus caused by shiitake ingestion. It is borne in mind that babbly mass and impaction sign is characteristic of dietary small bowel obstruction.

【References】

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[back](#)

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