Efficacy of protein leakage scintigraphy in diagnosing milk protein allergy in infants: A case report

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Abstract
A 3-year-old girl was hospitalized for examining the lower leg edema. The blood examination revealed TP (3.6 g/dL), Alb (1.7 g/dL), and hypoproteinemia. In addition, ⁹⁹mTc-HSA-D scintigraphy was performed to ascertain the presence of protein leakage from the intestinal tract. Although a diffuse RI distribution in the left lower quadrant was observed in a 1-h image, the movement of the RI distribution to the right lower quadrant was observed in the 6-h image acquired after the meal. Furthermore, the colon was being illustrated in the 24-h image. We confirmed the existence of protein leakage from the small intestinal mucosa. On interviewing the mother regarding the usual dietary content, it was found that approximately 800 mL of milk was fed to the patient per day. An allergy test revealed milk allergy, which was diagnosed as a series of protein-losing gastroenteropathy caused by excessive milk consumption.

Key words
⁹⁹mTc-HSA-D scintigraphy, Hypoproteinemia, Protein losing enteropathy, Infant, Milk Protein Allergy

Ethical comments
We obtained written informed consent from the participant’s guardians in accordance with the Code of Ethics of the World Medical Association. All procedures performed in this
retrospective study were in accordance with the ethical standards of our institutional research committee and with the principles of the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Conflict of interest statement
Funding  None.
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Fig.1

99mTc-HSA-D scintigraphy was performed to determine the presence or absence of protein leakage from the intestinal tract [1]. Diffuse RI distribution in the left lower quadrant is observed in a 1-h image (arrows).
Fig. 2
In the 6-h image, the movement of the RI distribution to the right lower quadrant is observed (arrows).
Fig. 3
In the 24-h image, the movement of RI distribution to the colon is observed. From the observation of this gradual movement (arrows), the existence of protein leakage from the small intestinal mucosa could be confirmed[1-3].
References