Intestinal ischemia in a 61-years-old man with classical-like Ehlers-Danlos syndrome

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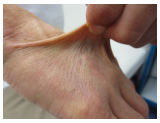
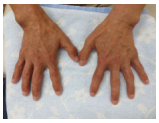
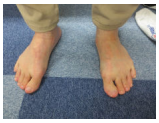
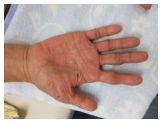
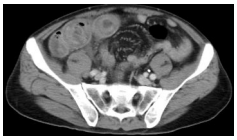
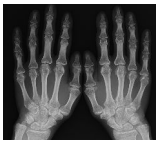
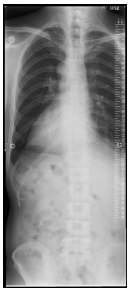
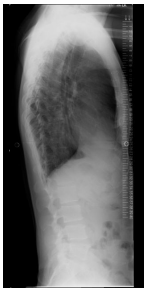
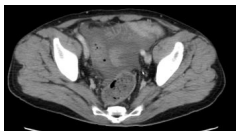
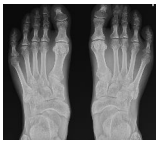
Background

- Tenascin-X deficiency caused by biallelic pathogenic variants in *TNXB* is designated as classical-like Ehlers-Danlos syndrome (clEDS), according to the 2017 International Classification of the Ehlers-Danlos Syndromes[1)].
- clEDS is characterized by skin hyperextensibility with velvety skin texture and absence of atrophic scarring, generalized Joint Hypermobility with or without recurrent dislocations, and easy bruisable skin/spontaneous ecchymoses[1)].
- Detailed natural history of the disorder, especially in older ages, remains unclear.
- Here, we report a 61-years-old patient with clEDS, who suffered intestinal ischemia that has never been reported in this disorder.

Case(61-year-old Japanese male)

History of present illness

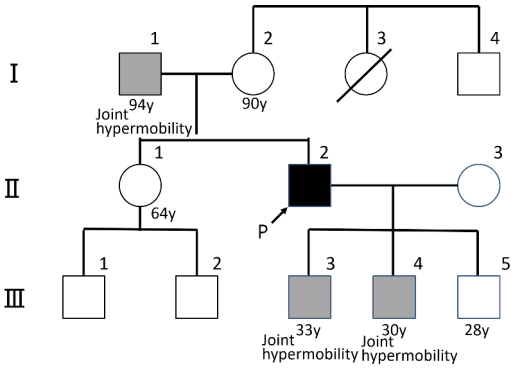
At age 55 years, he had abdominal pain with bloody ascites and underwent laparotomy. Discontinuous ischemia in the upper small intestine was noted and the serous membrane of the intestine were torn. Jejunal resection was performed. So he was referred to our clinic for further evaluation of multisystem tissue fragilities. He had soft and thin skin with bruisability but without atrophic scarring, joint hypermobility, pes planus, gingival recession, and myopia.

Past history

- Corrected surgically for tetralogy of Fallot (12y.o.)
- Recurrent conjunctival hemorrhages (20s~)
- Gallstones (34y.o.)
- Ileus (42y.o.),
- Right hemopneumothorax (44y.o.)
- Colonic diverticulitis (47y.o.)

Family history



Genetic & serum testing

- Genetic screening of hereditary connective tissue disorder using next generation sequencer and custom panel.

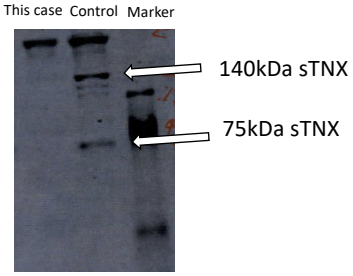
→No mutation was detected in genes associated with each types of EDS.

- MLPA for *COL3A1* and *TNXB*.

→Deletion of exon 35 in the *TNXB* gene was detected.

- However, not detected any pathogenic variant in the other allele of *TNXB*.

→Measurement of serum tenascin-X through Western blotting confirmed complete absence of the protein.



Discussion

- In TNXB, genetic diagnosis can be difficult because of presence of a pseudogene (*TNXA*) and measurement of serum tenascin-X concentration is considered to be useful[2)].
- In our case, we could detect only one variant in the *TNXB* gene, so we measured serum tenascin-X and confirmed complete deficiency, and diagnosed him with clEDS.
- In our case, discontinuous ischemia in the upper small intestine (this is the first reported symptom) was observed.
- Previous reports shows various gastrointestinal symptoms (diverticulum/diverticulitis[2), 3)], gastric ulcer[2), 4)], rectal prolapse[2), 3)], hemorrhoids[2)]).
- In addition, a case of recurrent intestinal perforation due to diverticulitis and ileus was reported[5)].
- Other reports described a patient with aneurysmatic abdominal arteries and a patient with aneurysm of the thoraco-abdominal aorta and aneurysmata of both common iliac artery and the superior mesenteric artery[2)].
- Sever intestinal ischemia with serum ascites requiring jejunal resection might be attributable to vascular events such as dissection and aneurysm, based on vascular fragility in this patient.
- In clEDS, severe gastrointestinal symptoms, similar to those found in vascular type EDS, might occur.

Reference

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Conflict of interest
we have no financial relationships to disclose.