

1. How the previous cases described in literature of colonic carcinoma in patients with SIT were treated?

A: Most are treated by laparoscopic surgery, see in table 1.

2. Why patients with SIT may have a higher risk of cancer?

A: It may be related to intracellular motor proteins and the KIF3 complex. Patients with SIT congenitally lack the normal function of the KIF3 complex. Defects of the KIF3 complex prevent the transportation of N-cadherin to the cell surface, leading to an increased level of β -catenin in the cytoplasm. The accumulated β -catenin in the cytoplasm enters the nucleus and activates genes associated with cell proliferation, thus leading to the development and progression of cancer.

Haruki T, Maeta Y, Nakamura S, Sawata T, Shimizu T, Kishi K, Miyasaka S, Maeta H, Morimoto K, Taniguchi I. Advanced cancer with situs inversus totalis associated with KIF3 complex deficiency: report of two cases. *Surg Today* 2010; 40: 162-166 [PMID: 20107958 DOI: 10.1007/s00595-009-4005-x.]

Teng J, Rai T, Tanaka Y, Takei Y, Nakata T, Hirasawa M, Kulkarni AB, Hirokawa N. The KIF3 motor transports N-cadherin and organizes the developing neuroepithelium. *Nat Cell Biol* 2005; 7: 474-482 [PMID: 15834408 DOI: 10.1038/ncb1249.].

3. Why did the patient is examined two weeks before admission if he had no symptoms and why did he performs a CT scan? Did the presence of SIT was hypothesized by the physical examination?

A: The patient found the tumor during a routine physical examination, he had a colonoscopy examination, maybe he was afraid of surgery, so he was not admitted to the hospital for treatment immediately. The colonoscopy examination showed that he had the colon tumor with SIT.