

# Clinicopathological study of Parkinson's disease with ischemic enteritis due to intractable constipation

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## 【Introduction】

Parkinson's disease is a progressive neurodegenerative disease characterized clinically by rest tremor, rigidity, bradykinesia, and postural instability. Parkinson's disease affects the central nervous system and peripheral autonomic neurons. We report on a case of Parkinson's disease with ischemic enteritis due to reducing bowel peristalsis, which caused ileus, and gut distention by bowel sympathetic nerve degeneration.

## 【Case:83-year-old woman】

【Chief complaint】 Abdominal pain

【Medical history】

60-year-old:She was diagnosed Parkinson's disease.

82-year-old:She couldn't walk because of frozen gait and orthostatic hypotension after the operation of lumbar spinal canal stenosis.

83-year-old:She was suffered an left-side-abdominal pain, a constipation, and an abdominal protuberance for 2 weeks.She couldn't relieve her bowels by herself. presented to our emergency department.

【Past history】 caesarian section

【Medication】 senna 577.9mg, pantethine 600mg, levodopa/carbidopa 300mg, ropinirole 8mg, entacapone 300mg, istradefylline 20mg, Ameji pyridinium methyl sulfate20mg, bethanechol 30mg, apixaban 5mg, gabapentin ena hydrocarblyl 300mg, rabeprazole10mg,

【Family history・life history】 no special instruction

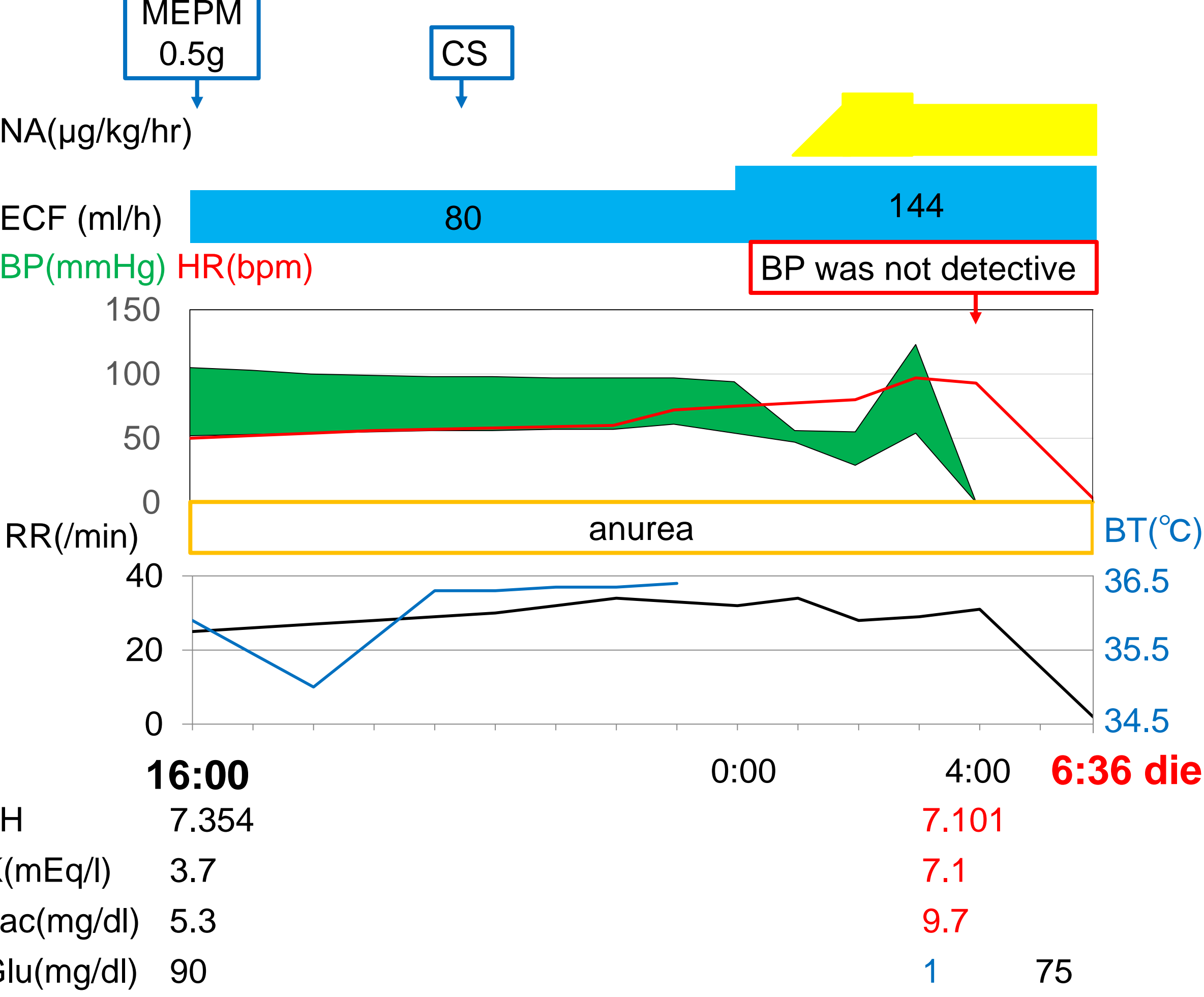
## 【Physical findings】

<Vital signs>Consciousness: GCS 15(E4V5M6), Blood pressure:101/47mmHg, Pulse rate:47bpm,Body temperature:35.2℃, Respiratory rate:19/min, SpO2:98%(room air)  
<Head and neck>Conjunctivae: no anemia and jaundice  
<Thorax>Heart: no murmur, Lung: no rales  
<Abdomen>Lower abdominal bloating was observed. Her bowel sound was weak. She had epigastric tenderness, no spontaneous pain and peritoneal irritation sign.  
<Extremities>cold foot, no edema

## 【Neurological findings】

movement: move by herself. no rigidity and thrill. walk: couldn't assess

## 【Clinical course】



## 【Laboratory data】

**Complete blood count** WBC 20200 /µl (Neut 94.2 %), Hgb10.3 g/dl, Plt 25.4 × 10<sup>4</sup> /µl

**Serum chemistry**

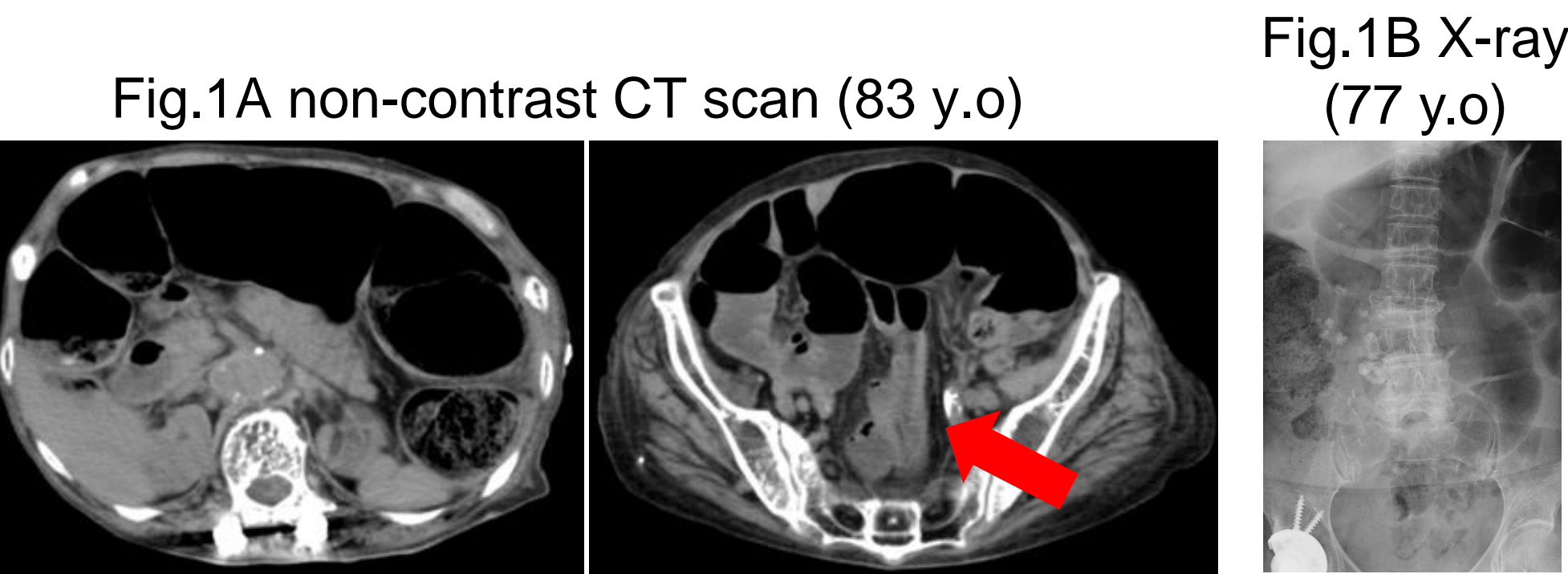
TP 6.7 g/dl, Alb 3.4 g/dl, AST 33 U/l, ALT 7 U/l, LDH 293 U/l, CK 465 U/l, BUN 37 mg/dl, CRE 2.2 mg/dl, Na148 mEq/l, Cl 108 mEq/l, K 3.7 mEq/l, Glu 86 mg/dl, CRP 5.4 mg/dl, PCT 20.44 ng/ml, eGFR 17 ml/min/1.73m<sup>2</sup>

**Coagulation system** PT-INR 1.63, APTT 37.8 sec., Fib 223.4 mg/dl, D-dimer 1.5 µg/ml

**Venous blood gas analysis** pH 7.354, pCO<sub>2</sub> 37.2 mmHg, pO<sub>2</sub> 26.7 mmHg, HCO<sub>3</sub> 20.2 mmol/l, cLac 5.3 mg/dl,

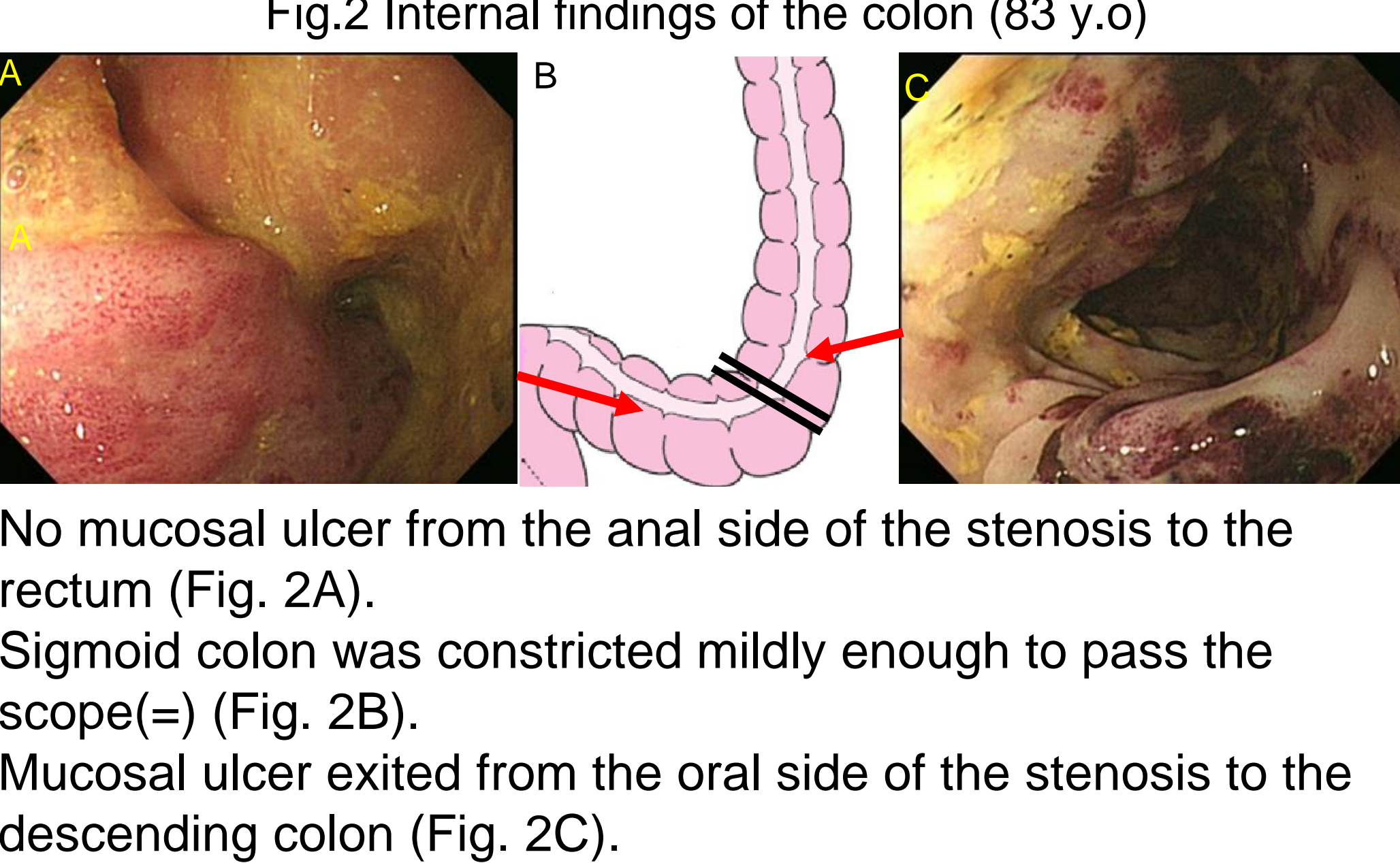
**Urine** Protein 3+, WBC 3+ (>100/HPF), Bacteria 2+ (1.1 × 10<sup>6</sup>)

## 【Diagnostic imaging】

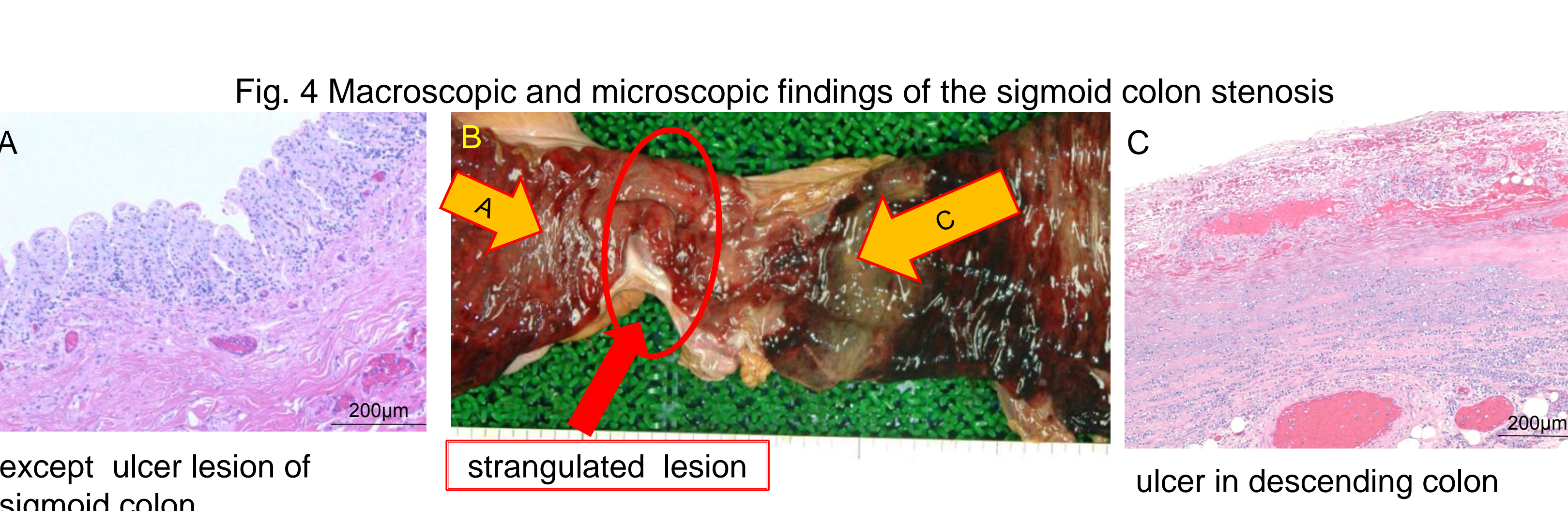


Non-contrast CT scan revealed gut distention from the sigmoid colon to small intestine(Fig. 1A)  
The restiform body (arrow) made the sigmoid colon narrow (Fig.1A).  
Gut distention was already observed by X-ray at the age of 77(Fig.1B).

## 【Colonoscopy】



## 【Pathological findings】



Hemorrhagic necrosis in mucosal layer became rampant without mucous ulcer (Fig. 4B).  
Inflammatory cell infiltrated in all layers in mucous ulcer lesion (Fig. 4C).  
No inflammatory cells in the sigmoid colon (Fig. 4A).  
No obstruction of superior and inferior mesenteric artery.

## 【Sympathetic nerve degeneration】

Table. Distribution of ischemia, nerve degeneration, and Lewy bodies

	ischemic colitis	nerve Degeneration	Lewy Body (stained by H.E.)	Lewy Body (immunohistochemical study)
esophagus	-	±	+	+++
stomach	-	±	+	+++
ileum	+	+++	-	+
colon	+++	+++	-	+
rectum	-	±	+	+++

Fig. 5 Lewy bodies and Lewy neurites

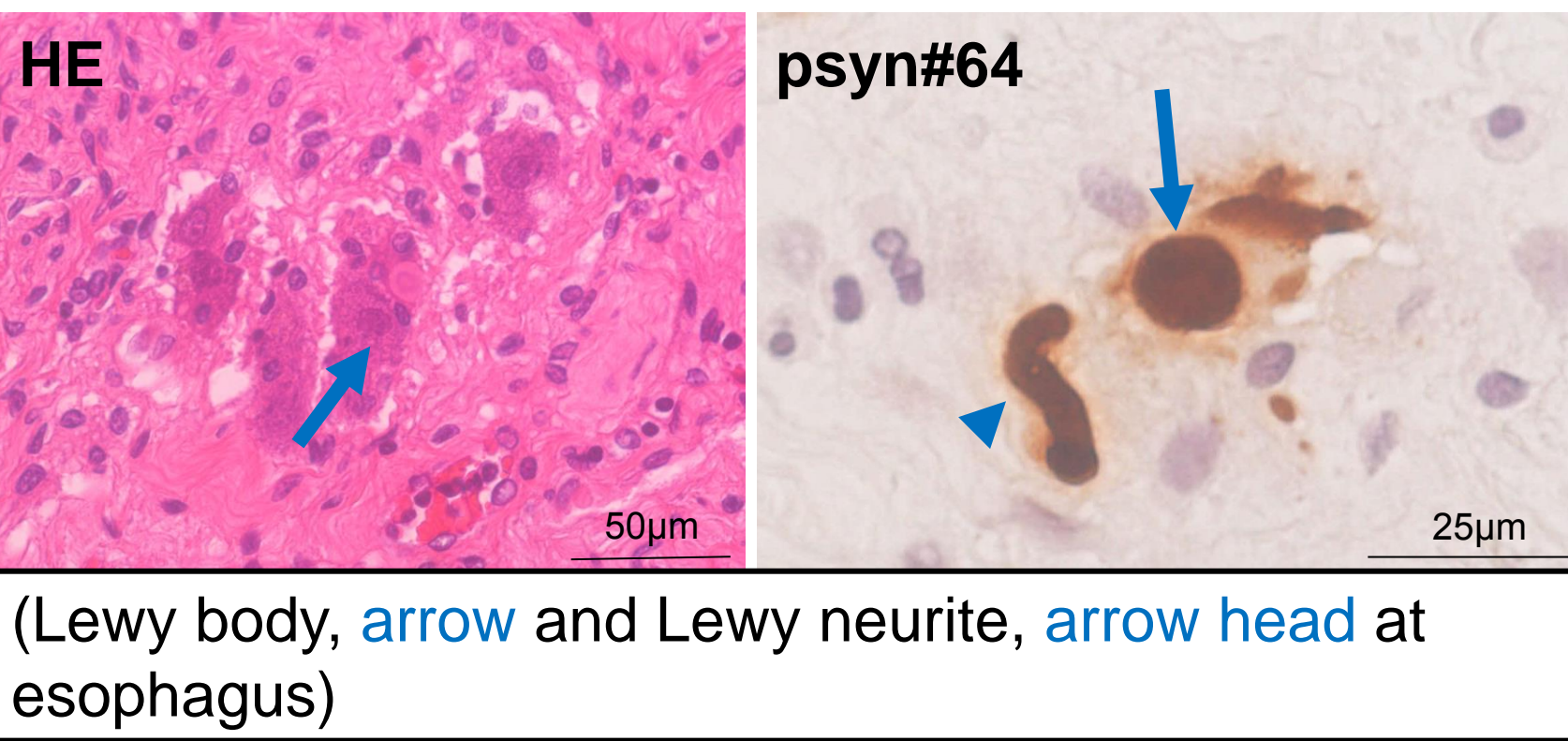
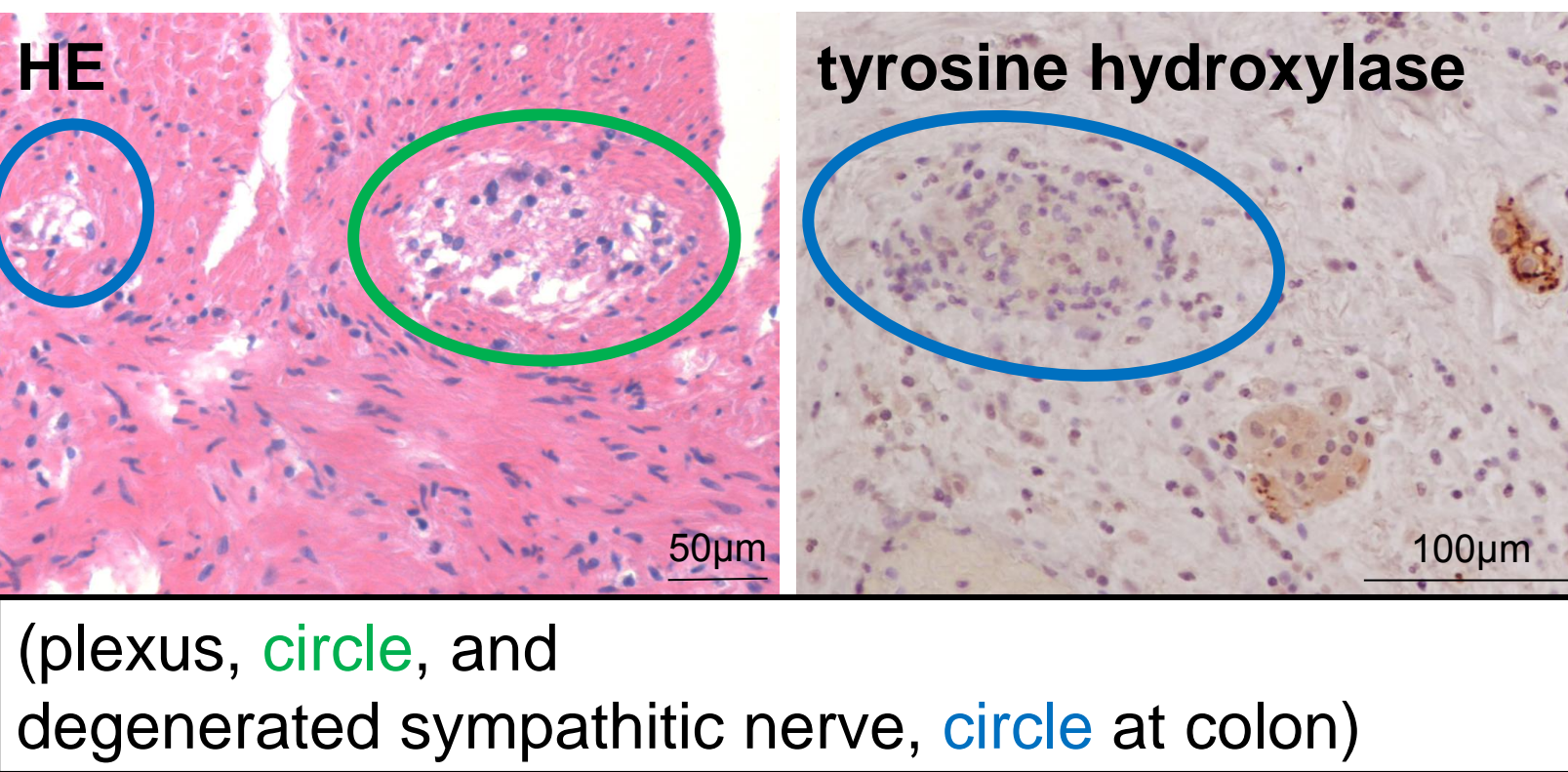
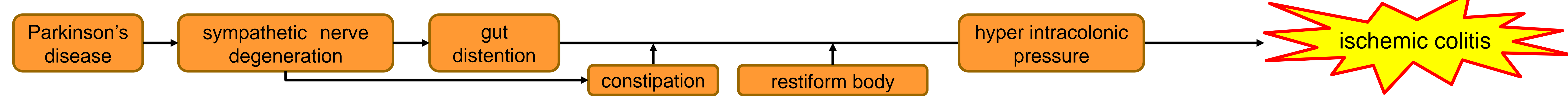


Fig. 6 Sympathetic nerve degeneration



## 【This case...】



## 【Conclusion】

- We experienced the case who died from ischemic colitis which was led by high colonic pressure. Insufficient stool over two weeks might have caused an upregulation of the inner pressure of colon.
- Constipation with Parkinson's disease can lead to death and thus prevention is vital.