

## 【Aims】

Pathogenesis of Interstitial Cystitis (IC) is unknown, however, autoimmunity is thought to be one of the possible pathogenesis. Sjögren's syndrome (SS) is one of the autoimmune disease which is known to have strong association with IC. We evaluated clinical and pathological feature of IC associated with SS (SS-IC).

## 【Methods】

A total of 93 IC patients (5 of them had SS as coexisting disease and 88 controls) received hydrodistention\* for both treatment and diagnosis. We compared clinical features by using O'Leary and Sants' symptom/problem indices (OSSI/OSPI), visual analogue scale for pain (VAS) and frequency volume chart data of SS-IC patients and control patients retrospectively.

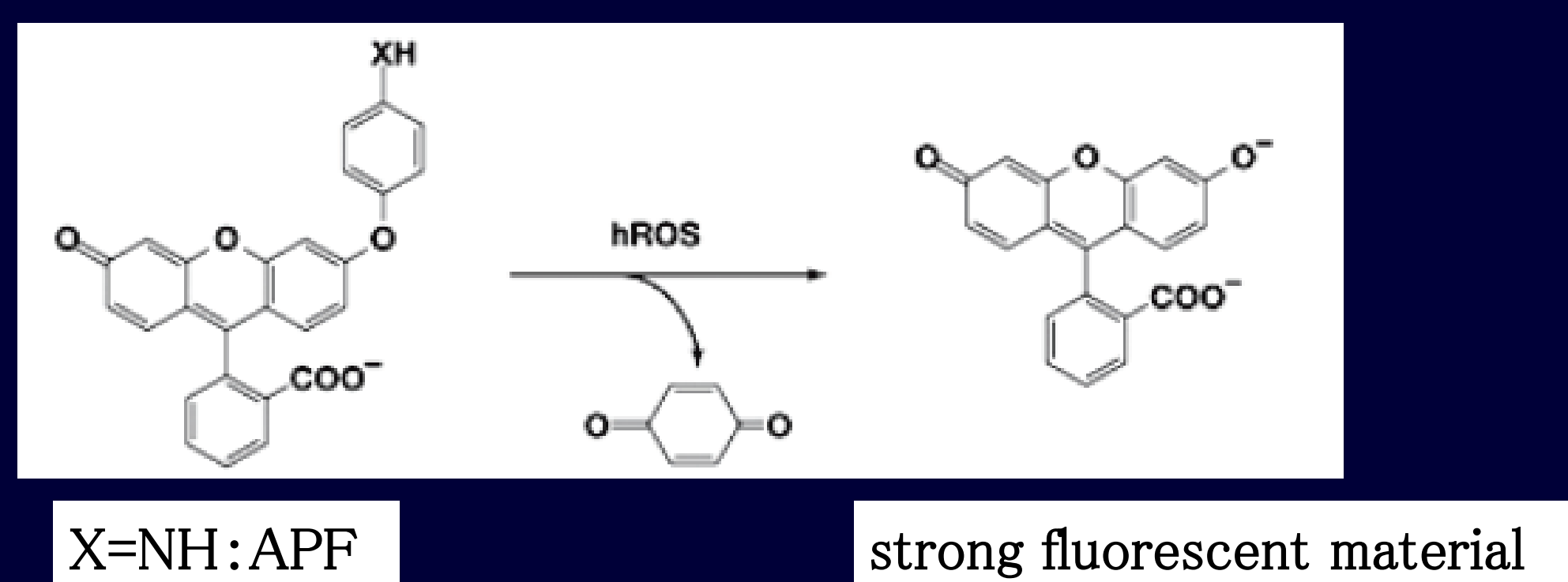
Biopsy specimens were obtained from all patients who received hydrodistention.

In 5 SS-IC patients and 5 control patients, infiltration of CD4+ and CD8+ cells were evaluated by immunohistochemical (IHC) respectively.

\*Surgical protocol:

- ① under general or spinal anesthesia
- ② observe bladder mucosal pathology before hydrodistention
- ③ irrigation fluid into the bladder at a pressure of 80 cmH<sub>2</sub>O.
- ④ observe bladder mucosal change during hydrodistention such as petechial hemorrhage and glomerulation
- ⑤ biopsy from ulcer part, non-ulcer part

Aminophenyl Fluorescein (APF) is a factor which can detect reactive oxygen species. The strong fluorescent material (wave length 710nm) is generated when APF unites with highly reactive oxygen species (hROS). For example, by using APF, we can detect <sup>-</sup>OCl, one of hROS generated by neutrophil.

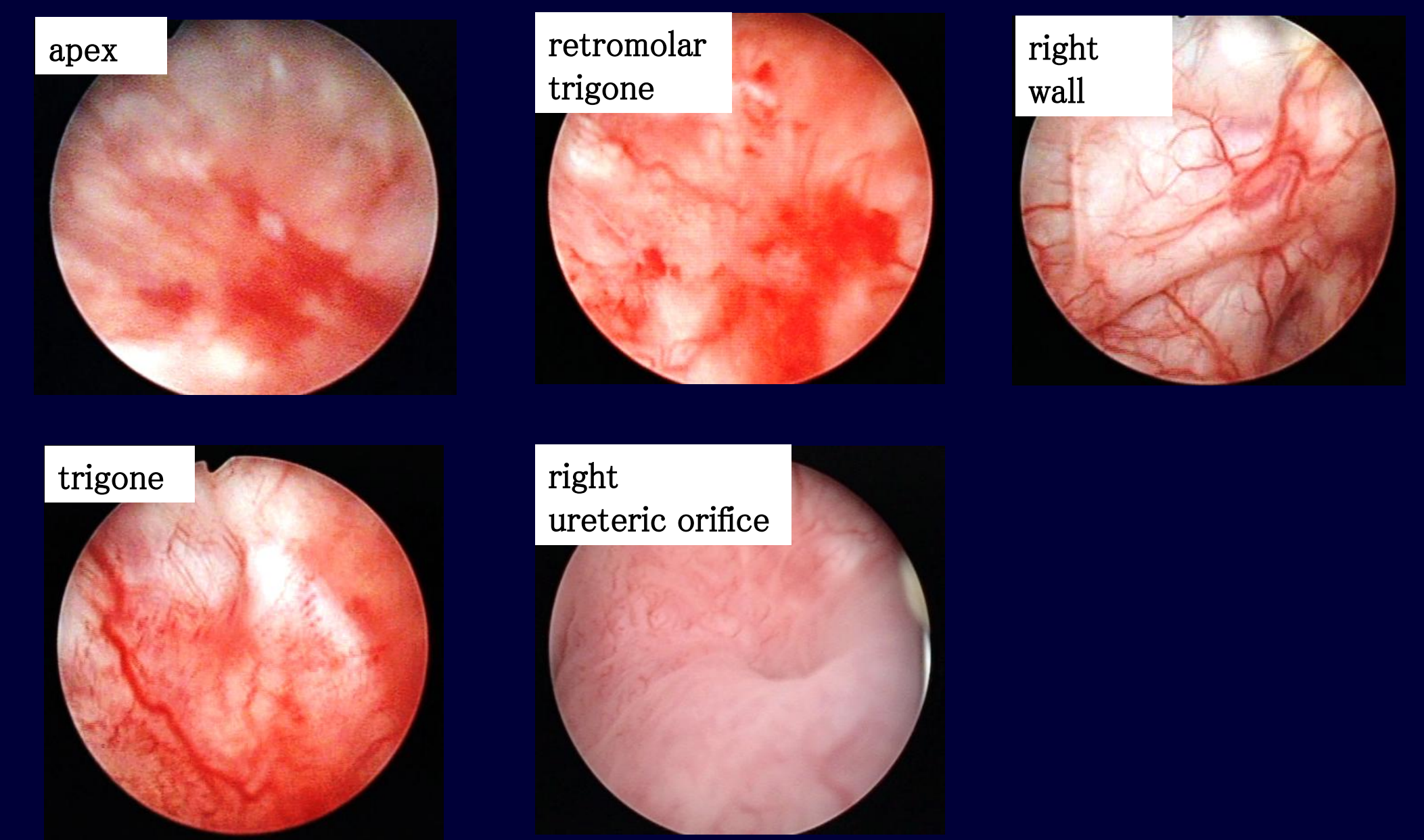


## 【Results】

Clinical features of IC with and without SS      mean (range)

	IC with SS (n=7)	IC without SS (n=200)
Age at onset	66.0 (42-82)	53.4 (13-82)
OSSI	13.7 (8-19)	14.0 (5-20)
OSPI	13.2 (8-16)	12.0 (3-16)
VAS	8.2 (5-10)	7.5 (2-10)
Urinary frequency (/day)	18.2 (10-30)	17.4 (8-52)
voided volume (mL)	104.1 (25-200)	106.6 (33-257)
distended volume (mL, under anesthesia)	440 (350-800)	573 (150-1000)
Proportion of ulcerative lesions (%)	60 [40-90]*	20[5-55]

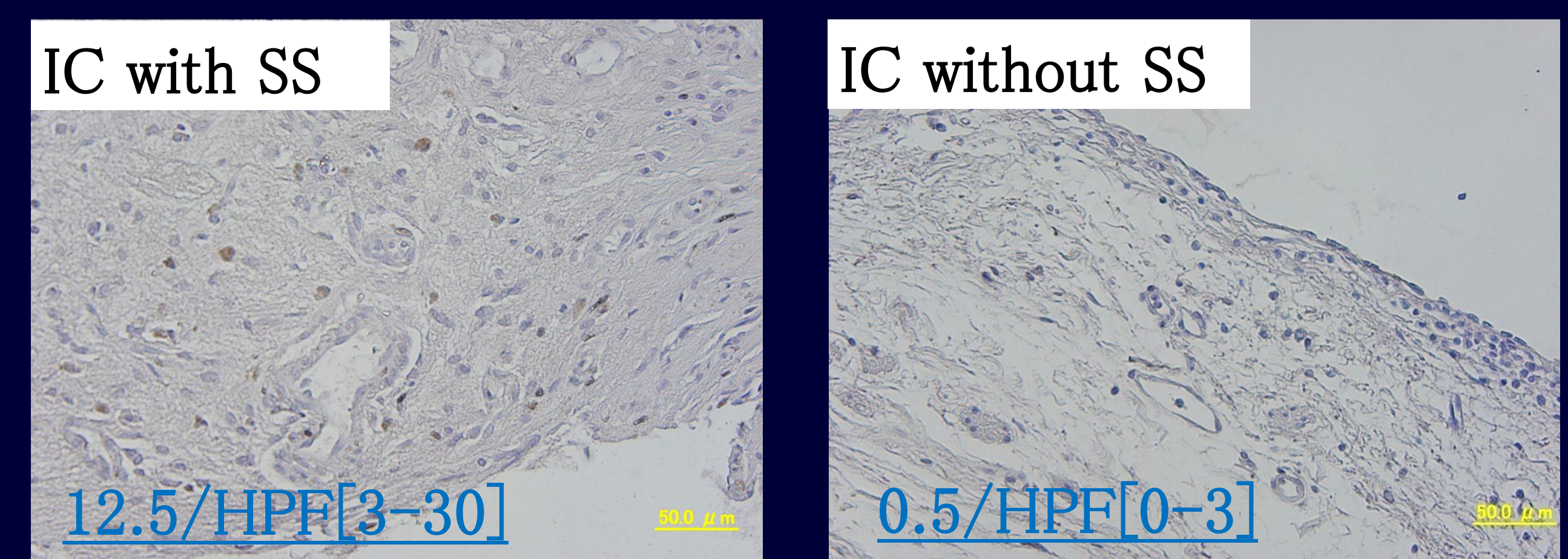
<cystoscopic photograph :IC with SS patient>



cystoscopic findings :

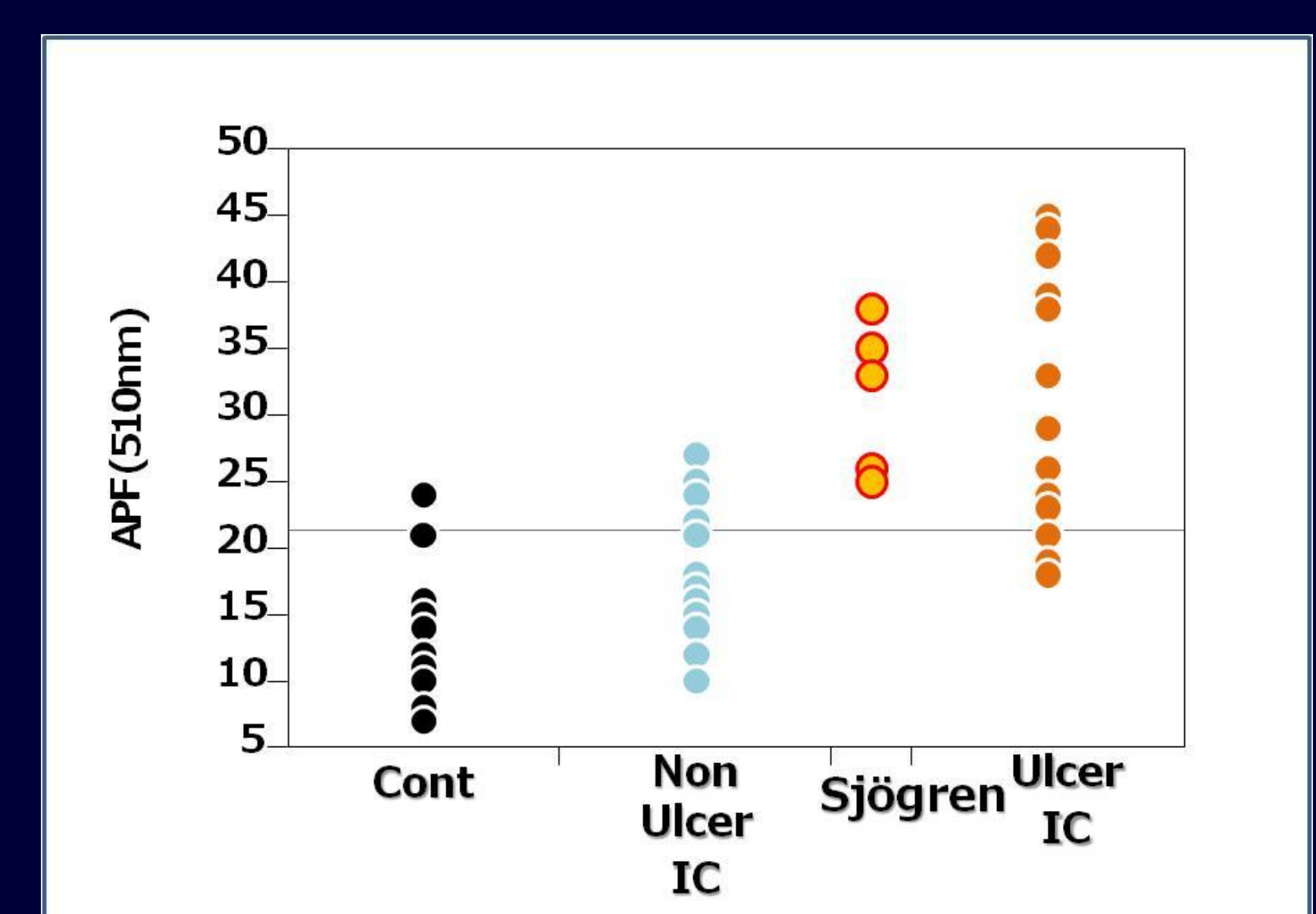
- Diffuse proliferation of blood vessels, edema, erosions were observed in SS-IC.
- The findings were quite different from those of 'normal' IC which change is usually localized.

<IHC: CD4+ T-cell >



CD4+ T-cells infiltration was significantly-high in the IC with SS patients' biopsy specimen ( $p < 0.05$ ), whereas CD8+ T-cells infiltration was as well as IC without SjS patients' (number of CD8+ T-cells was 1.0/HPF[0-5] in IC with SS, 0.8/HPF in IC without SS).

<urine APF(Aminophenyl Fluorescein)>



Urine APF was detected significantly-high in SS-IC patients and ulcerative IC patients rather than non-ulcerative IC patients and controls.

## 【Discussions and Conclusions】

- IC with SS patients had similar clinical features with those without SS.
- However, IC with SS shown diffuse mucosal change while IC without SS shown partial change.
- Increased number of CD4+ T cells in IC with SS bladder mucosa suggests as one of major player in pathogenesis of IC with SS as well as SS itself.