

Usefulness of musculoskeletal ultrasonography of haemophilic arthropathy



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Objectives

✧ To evaluate haemophilic arthropathy by using ultrasonographic technique for rheumatic disease.

Patients & Methods

✧ Dec. 2010~Nov. 2012
16 haemophilia 27 joints
A: 14 patients, B: 2 patients
inhibitor 9 patients
mean age 19.8 y.o.

✧ Machine : HITACHI HI VISION Avius
✧ Probe : 5~13MHz linea type
✧ PRF : 800Hz
✧ Power-Doppler:
semiquantitative scoring → grade 0~3

Szkudalarek M, et al. Arthritis Rheum 2003

Results

✧ Characteristics of patients & US data

No.	Age	Inhibitor	Hemophilia	Arthroscopic synovectomy	power Doppler(PD) US (H:haemarthrosis)
1	22	•	A	Rt ankle	Rt ankle PD2 H+
2	11	•	A	Rt elbow	Rt elbow PD2 H+
3	12		A	Lt ankle	Lt ankle PD- H+
4	9	•	A	Rt ankle	Bil.ankle: Rt ankle PD2 H+
5	47	•	A		Rt knee PD2 H-
6	11	•	A		Rt knee PD2 H+
7	24		A	Lt ankle	Bil. elbow, knee, ankle: Lt ankle PD2 H-
8	26	•	A		Rt elbow, Bil. ankle PD2 H-
9	30		A	Rt shoulder, Bil.ankle	Rt shoulder, Bil. ankle: Lt ankle PD1 H-
10	58		B		Bil.ankle: Rt ankle PD3 H-
11	8		A		Rt ankle PD- H+
12	10	•	A	Rt elbow, Lt ankle	Rt elbow PD3 H-
13	5	•	A		Lt knee PD2 H+
14	7		B		Lt hip PD- H+
15	27		A		Rt elbow PD2 H-
16	8	•	A		Lt knee PD2 H+

✧ Evaluation joints

→ shoulder×1, elbow×6, hip×1, knee×6, ankle×13

✧ PDgrade ≥ 1 with haemarthrosis → 12 joints

PDgrade ≥ 1 without haemarthrosis → 7 joints

Haemarthrosis only → 2 joints

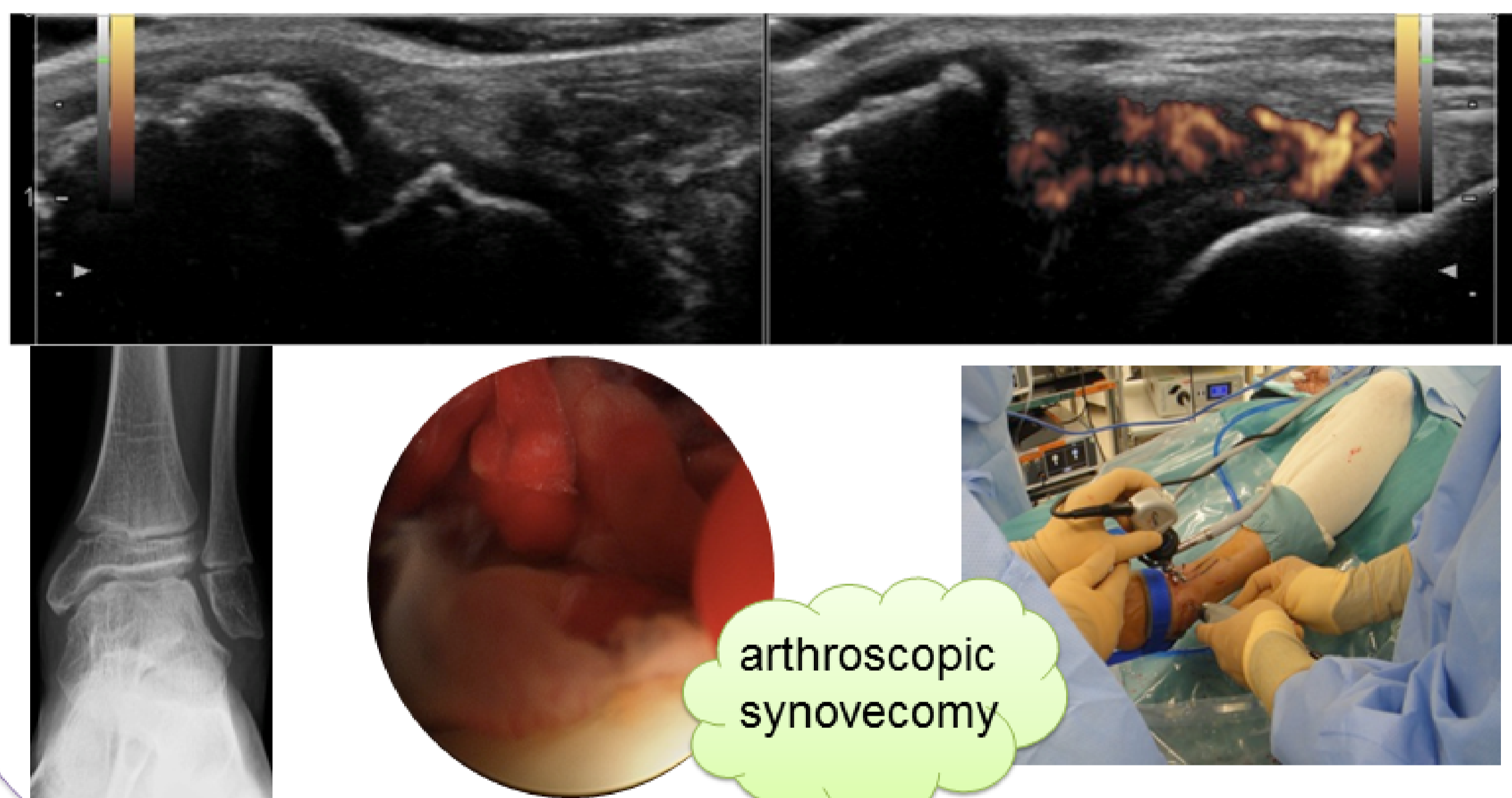
✧ In cases that US was performed less than 7days from joint bleeding

→ Joint bleed persisted in the US imaging of all cases

✧ All arthroscopic synovectomy cases showed inflammatory synovium of macroscopic, histological diagnosis, and 60% of these PDgrade ≥ 1

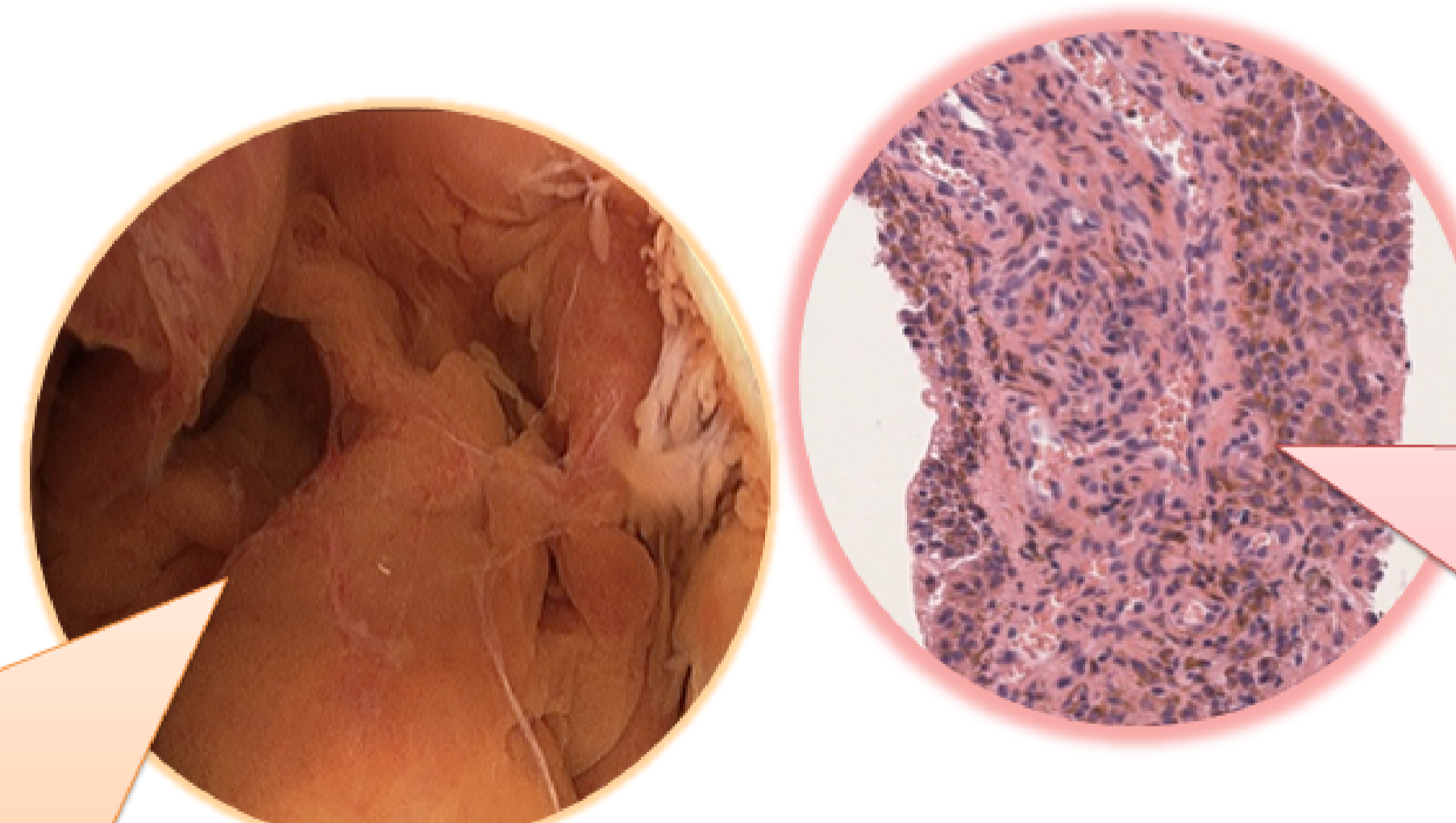
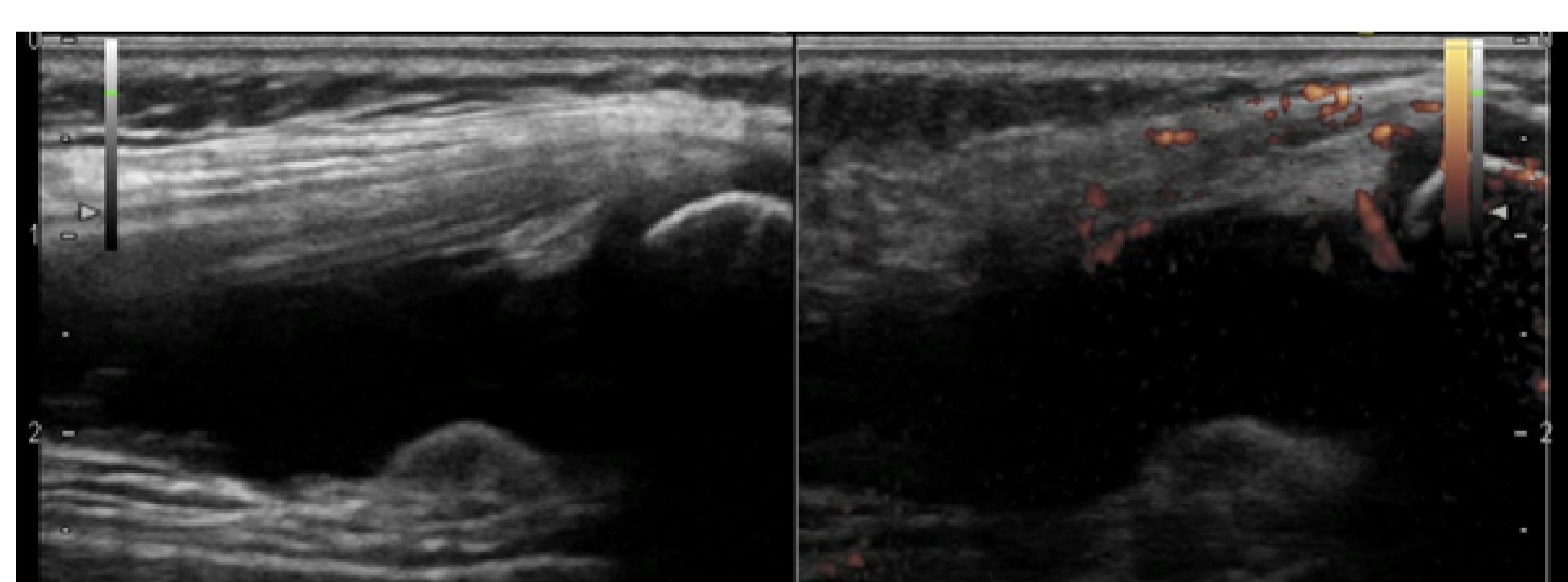
~Case Presentation①~

8y.o. M Haemophilia A, Ankle synovitis



~Case Presentation②~

5y.o. M, Haemophilia A, inhibitor +, Knee synovitis



- Arthroscopic findings -
proliferation of hemorrhagic, yellow-brown synovium

- Histological findings -
haemogiderin deposition
Inflammatory cell proliferation
minimal vascular proliferation

Conclusions

✧ Ultrasonography (especially power-Doppler US) for haemophilic arthropathy were useful and specific in evaluation of synovitis, and it could be promising tools.

✧ Suitable setting, selection of probe, timing of US examination and standardization of large joints evaluation should be clarified by future studies.

