

# Poster Round

## 海報目錄

時 間：113 年 12 月 14 日(星期六)15：15-15：40

地 點：新竹喜來登大飯店 3F 海報區

主持人：許鐘元醫師

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## Difference between radiographic and non-radiographic axial Spondyloarthritis in Chinese patients: from Taiwan AS Study Group Cohort

### 華人僵直性脊椎炎及無放射線學異常之中軸型脊椎關節炎臨床表現比較：來自台灣僵直性脊椎炎研究小組世代

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**Background:** Axial Spondyloarthritis (axSpA) encompasses both radiographic axSpA (r-axSpA), previously known as ankylosing spondylitis, and non-radiographic axSpA (nr-axSpA). Prior researches have highlighted significant differences between these subgroups, yet data specific to the Chinese population remains limited. This study aims to compare the demographic and clinical characteristics, disease onset, and clinical features of Taiwanese patients with r-axSpA and nr-axSpA.

**Methods :** In this cross-sectional study, patients with axSpA were recruited from the outpatient clinics of Central Clinic and Hospital, Shuang-Ho Hospital, and Taipei Veterans General Hospital from 2021 to 2024. Demographic information, disease characteristics, and axSpA activity and functionality were recorded and compared.

**Results:** A total of 492 r-axSpA and 119 nr-axSpA patients were included. The nr-axSpA group had a significantly lower male rate (52.9% vs. 76.8%,  $p<0.001$ ), older age at onset (31.2 years vs. 26.59 years,  $p<0.001$ ), and shorter diagnostic delay (2.35 years vs. 3.56 years,  $p<0.001$ ). Initial symptoms were similar between groups, except nr-axSpA patients reported lower rate of buttock pain but higher rate of fatigue.(Table2) Disease activity indices (BASDAI) were comparable; however, the nr-axSpA group had significantly lower ESR(15.66mm/hr vs. 23.51mm/hr,  $p<0.001$ ), CRP(11.19 mg/dL vs. 4.17mg/dL,  $p<0.001$ ), and ASDAS, and better functionality (BASFI 1.92 vs. 2.71,  $p=0.0014$ ).

**Conclusions:** In this Taiwanese axSpA cohort, nr-axSpA patients were less male-dominant, presented at an older age, experienced more buttock pain and fatigue, had lower ESR/CRP and ASDAS, and demonstrated better functional outcomes compared to r-axSpA patients.

## Association of uveitis with disease manifestations in Chinese patients with spondyloarthritis: from Taiwan AS Study Group Cohort

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### Abstract

**Background:** To investigate whether uveitis has association with disease manifestations, disease activity and co-morbidities in patients with Spondyloarthritis (SpA).

**Methods:** 615 SPA patients were enrolled in the cross-sectional study. 492 patients with Ankylosing spondylitis, and 123 patients with non-radiographic SpA. Patients visited the Outpatient Department of Veterans General Hospital-Taipei, Shuang Ho Hospital, and Central clinics. Patients completed the questionnaires, containing disease activity (BASDAI), functional ability (BASFI) and patient's global assessment (BASG). Uveitis was accepted only if diagnosed by an ophthalmologist.

**Results:** 172 patients had uveitis, and 443 patients had non-uveitis. Prevalence of uveitis in this SpA cohort was 28.0% (172/615). Patients with uveitis had higher percentage of age  $\geq 45$ yr than non-uveitis [103(59.88%) vs. 171(38.60%),  $p < 0.001$ ]. Patients with uveitis had older age of definite diagnosis [32.60(13.17) vs. 30.10(13.09) y/o,  $p = 0.0338$ ] and longer disease duration [18.72(13.00) vs. 14.64(11.87) yrs,  $p = 0.0002$ ] than non-uveitis. Patients with uveitis had higher percentage of anterior chest wall pain, neck soreness, neck limitation, enthesitis, peripheral arthritis, dactylitis, inflammatory bowel disease, psoriasis, sleeping, mood disorders than non-uveitis (all  $p < 0.05$ ). Patients with uveitis had higher risk of DM, AMI, and renal disease than with non-uveitis (all  $p < 0.05$ ). Patients with uveitis had higher BASDAI-1 (fatigue), BASDAI-3 (peripheral arthritis), BASDAI-4 (enthesitis), BASFI-3 (reaching a high shelf without help), BASFI-8 (looking over without turning body) than non-uveitis (all  $p < 0.05$ ).

**Conclusion:** Comparing to non-uveitis, the presence of uveitis in SpA patients was associated with older age, longer disease duration, fatigue, peripheral arthritis, enthesitis, dactylitis, neck limitation, extra-articular manifestations, sleeping/mood disorders and specific co-morbidities.

## Septic Arthritis Caused by *Cutibacterium acnes* Masquerading as Ankylosing Spondylitis Flare-up with Peripheral Articular Involvement: A Case Report

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### Abstract

#### Background:

As of now, ankylosing spondylitis flare-up still lacks definitive diagnostic criteria. Considering that symptoms specific to AS and fluctuation of inflammatory markers may not always be present in a flare-up, it is sometimes difficult to differentiate between AS and septic arthritis. We report a patient who developed septic arthritis caused by *Cutibacterium acnes*, masquerading as an AS flare-up with peripheral arthritis.

#### Case Report:

A 23-year-old male, who was diagnosed with AS, presented with right shoulder pain without morning stiffness for 1 week at a clinic, along with fever. Right knee pain and bilateral Achilles tendon pain were noted in prior months. AS flare-up was suspected, though septic arthritis had to be considered. After the patient was admitted to a medical center, blood test revealed high CRP and ESR levels, and empirical ciprofloxacin, 400mg, q12h was given. Arthroscopic debridement and tissue culture were performed, from which gram-positive *Cutibacterium acnes* grew. His symptoms and inflammatory markers improved partially after treating with daptomycin, 750mg, qd. Due to fluctuating inflammation, his DMARD regimen in outpatient follow-ups was adjusted. CRP and ESR levels have since returned to baseline, and BASDAI score have improved from 7.3 (upon admission) to 5.3 when discharged. His symptoms have been stable since then.

#### Conclusion:

When presented with fever, high CRP levels and pain without morning stiffness, septic arthritis should be considered if the symptoms were refractory to high DMARD dosage. Arthrocentesis, microbial cultures and thorough examination of medical history also can assist in differentiating, thus enabling proper treatment.

## Image of upper cervical spine osteomyelitis and epidural abscess in a HLA-B 27 positive patient

### HLA-B 27 陽性患者之高位頸椎骨髓炎與硬腦膜外膿瘍影像

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#### Background

Neck pain is a common symptom in spinal disorders, but unusual neck pain accompanied with neurological deficits can be considered as red flag of infection.

#### Methods

We reported a case of upper cervical osteomyelitis and epidural abscess in a HLA-B 27 positive female patient through chart review after informed consent.

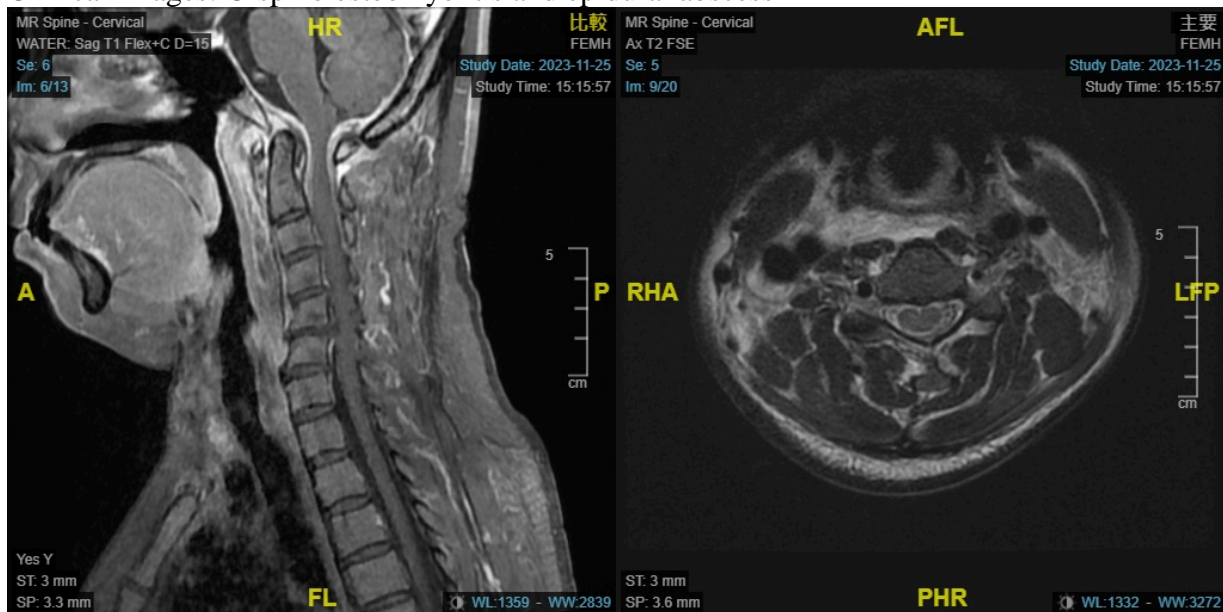
#### Results

This 44-year-old woman as a hepatitis B carrier with liver cirrhosis had neck pain and headache for 2 months. Ankylosing spondylitis was suspected and a HLA-B27 test showed positive. However, her neck pain responded poorly to NSAID. Due to severe neck pain, she was brought to ER and was admitted on the next day to rheumatology ward. After admission, gait disturbance, dysarthria, and swallow difficulty were noted. On the second day of admission, involuntary movement was noted and emergent C spine MRI was performed which showed left side condyle and C1 osteomyelitis with epidural abscess formation. Fluoroscopy interventions including sac decompression, drainage of the epidural abscess arranged on the third day of admission. Finally, blood culture and surgical site culture revealed *Staphylococcus aureus*. Patient recovered well after long-term antibiotics treatment and regular followed up at outpatient department.

#### Conclusion

Upper cervical spine osteomyelitis and epidural abscess can be earlier awareness by concurrent neurologic deficits. Surgical intervention prevents the progression of neurologic impairment and decrease the risk of subsequent atlantoaxial subluxation.

#### Clinical Images: C-spine osteomyelitis and epidural abscess



left side condyle and C1 osteomyelitis with epidural abscess formation

## Motion and Movement's Influence on Pain 身體的動作和移動對疼痛之影響

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### Abstract

**Background:** 觀察病患的走路以瞭解人體生物力學之改變與肌肉骨骼疼痛之關係。

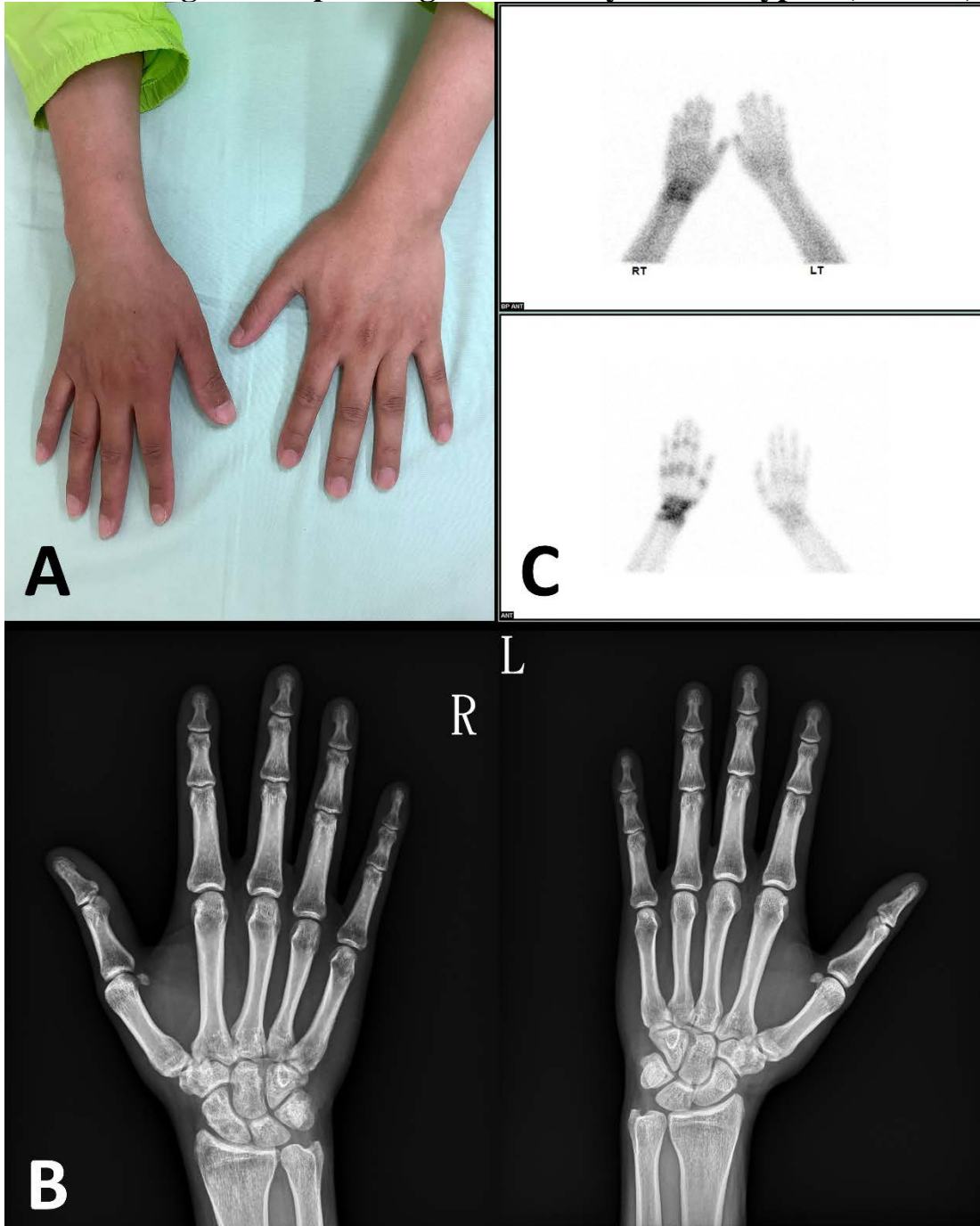
**Method:** 給予病患不同物理性刺激，並拍攝病患走路時的影像，再進行比對。

**Result:** 經長期追蹤，走路應分為著地期 ST(特指雙腳承重)和擺盪期 SW(特指單腳承重)。ST 的影響因素是重力(地心引力)，作用在關節間隙，SW 的影響因素是向心力和離心力，即呼吸和軀幹肢體的互動，作用在骨頭之延伸和收復，帶動肌肉之向心與離心收縮。另一橫跨 ST 和 SW 的是交副感神經，使走路重心在後(交感)，重心在前(副交感)，牽動關節和骨頭。

**Conclusion:** 大腦才是主要的影舞者，大腦的記憶才是治療疼痛的標的。



## Clinical Images: Complex Regional Pain Syndrome Type 1 (CRPS-I)



A 41-year-old previously healthy man presents with a 10-month history of persistent pain in his right wrist following a traumatic injury. The patient reports increased pain in the right wrist after physical activity, without morning stiffness. On examination, the right wrist shows mild swelling compared to the left, feels warmer to the touch, and has darker skin coloration (A). Range of motion in the right wrist is limited due to pain. Laboratory results indicate normal inflammatory markers, including C-reactive protein and erythrocyte sedimentation rate. Tests for antinuclear antibody, rheumatoid factor, anti-CCP antibody, and HLA-B27 are all negative. The plain radiograph shows regional osteopenia in the right wrist, while the left side appears normal (B). The three-phase bone scan reveals increased uptake during early blood flow and blood pool phases, as well as in the delayed bone phase of the right wrist (C). These findings support a diagnosis of complex regional pain syndrome type 1 (CRPS-I).

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## Dipeptidyl Peptidase-4 Inhibitors Versus Sulfonylureas for Psoriasis Prevention in Patients With Type 2 Diabetes Receiving Metformin

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## 二肽基肽酶-4 抑制劑與磺烯基尿素類降低使用 Metformin 糖尿病患者罹患乾癬之風險性

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### Abstract

**OBJECTIVE:** To compare the risk of incident psoriasis in patients with T2DM who initiate DPP-4is or TZDs with the risk in those who initiate sulfonylureas, the most common second-line glucose-lowering therapy, in addition to metformin monotherapy.

**RESEARCH DESIGN AND METHOD:** This sequential, propensity-score-matched, new-user comparative effectiveness study employed a target trial emulation framework. The study included adults with T2DM receiving metformin monotherapy and utilized data from January 1, 2006, to December 31, 2015, from a general population database with data on Taiwanese citizens. The primary outcome was the incidence of psoriasis, which was determined through diagnoses recorded in urgent care, hospital, and outpatient department records. We employed Cox proportional hazards and Poisson regressions with 1:4 propensity score matching for the target trial emulations. Cox proportional hazards regression models were employed to evaluate the risk factors for psoriasis after adjustment for comorbidities and the use of other medications.

**RESULTS:** In the 49 810 propensity score-matched adults with T2DM (using DPP4is or sulfonylureas, of whom 27 630 [55.4%] were men, with a mean [standard deviation] age of 57.5 [11.8] years) who were identified on the database, the incidence rate of psoriasis in DPP4i users (1.88 cases per 1000 person-years) was lower than that in sulfonylurea users (4.67 cases per 1000 person-years), with a hazard ratio of 0.422 (95% CI, 0.273-0.716). However, no significant difference was observed for those using TZDs.

**CONCLUSIONS:** The psoriasis benefits associated with DPP4is can guide selection of glucose-lowering therapy in patients with T2DM who are at risk of psoriasis.



銻-67 腫瘤掃描與正電子放射斷層造影在一位新診斷  $\gamma\delta$ T 細胞淋巴瘤乾癬患者中的應用

Gallium-67 and PET Imaging in a Psoriasis Patient Newly Diagnosed with Gamma-Delta T Cell Lymphoma

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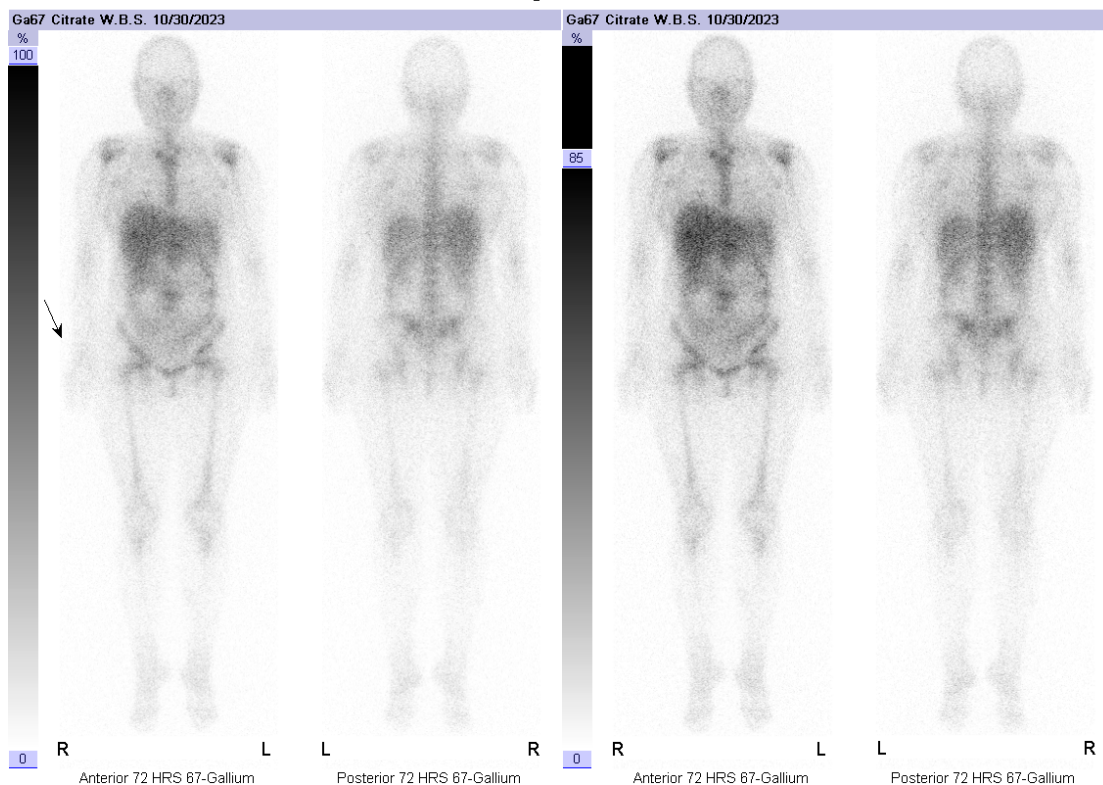
<sup>3</sup> Department of Post-Baccalaureate Medicine, College of Medicine, National Chung Hsing University, Taichung, Taiwan

A 38-year-old woman with a 34-year history of psoriasis vulgaris, currently under treatment with brodalumab and exhibiting a good response in the dermatology clinic, presented to the rheumatology clinic with a fever, indurated nodules on her upper back, and erythematous macules on her face, limbs, and trunk. A skin biopsy of the left upper back revealed primary cutaneous gamma-delta T cell lymphoma. Gallium-67 (Ga-67) and positron emission tomography (PET) scans showed uptake in different regions of the body.

Ga67 Citrate W.B.S. 10/30/2023

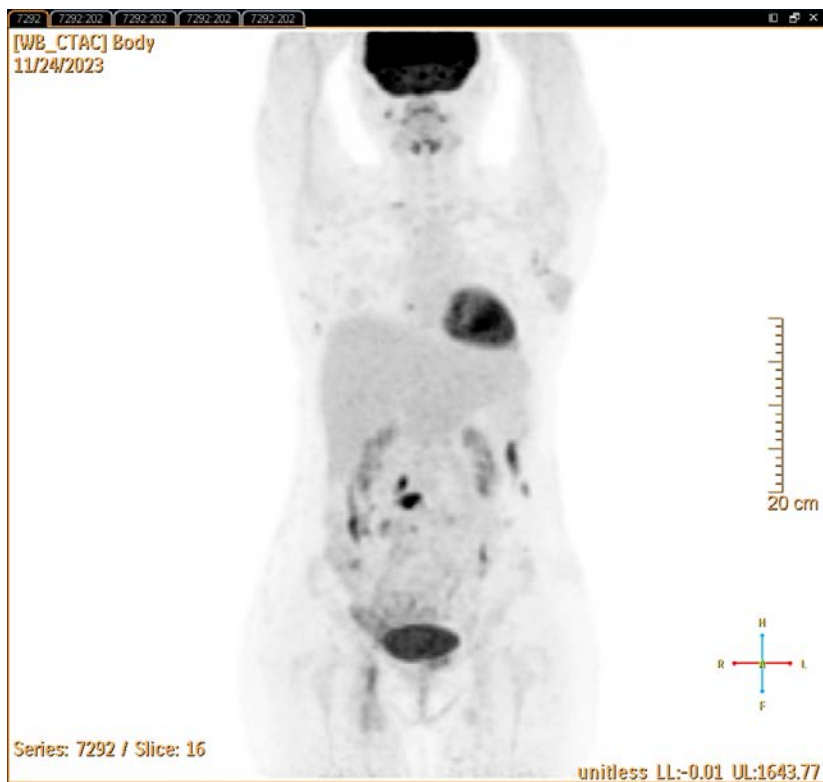
Dept. Nuclear Medicine, Veterans General Hospital, Tai-Chung

Chang Yan Wen 001139889D



Picture 1.

A Ga-67 scan was performed to investigate the cause of an unknown fever. The report indicated inflammation in the bilateral shoulders, sternoclavicular junctions, hips, and sacroiliac joints.



**Picture 2.**

A PET scan conducted one month after the Ga-67 scan suggested malignant lesions (grade 4 increased uptake) in the abdominal and pelvic walls, bilateral back, and left thigh.

## Adult-onset Still's disease mimicking long-COVID: a case report

### 個案報告：一位年輕女性在新冠肺炎感染後發生成人型史迪爾氏症

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### Background

The diagnosis of Adult-onset Still's disease (AOSD) remains challenging due to its protean manifestations and rarity. Emergence of COVID-19 pandemic further complicated the landscape as clinical presentations of AOSD shares several features with the increasingly recognized long-COVID syndrome [1, 2]. The symptomatic overlap may lead to delayed recognition of AOSD. Here we report such a challenging case which AOSD closely resembled long-COVID.

### Case presentation

A 32-year-old woman presented to our rheumatology clinic for subacute intermittent fever and joint pain. Four months ago, she had an episode of COVID-19 mild disease. Her discomforts soon resolved after taking NRICM101(清冠一號). Three months ago, she developed daily fever, pain at bilateral hand joints and sore throat. Antibiotics were given for suspected tonsillitis in a local clinic, but response was limited. Subsequently, she was admitted to internal medicine service in hospital A. Laboratory tests revealed elevated C-reactive protein, erythrocyte sedimentation rate, anemia, elevated aspartate aminotransferase, alanine transaminase, alkaline phosphatase, gamma-glutamyl transferase, and positive anti-mitochondrial antibody. Infection workups including blood/sputum/urine and mycobacterium cultures were negative. Abdominal ultrasound showed splenomegaly. Whole-body computed tomography revealed small bilateral inguinal lymph nodes. Tumor markers were unremarkable. Under the impression of primary biliary cholangitis and post-COVID hyperinflammation, methylprednisolone 40mg daily were given with low oral maintenance dose after discharge.

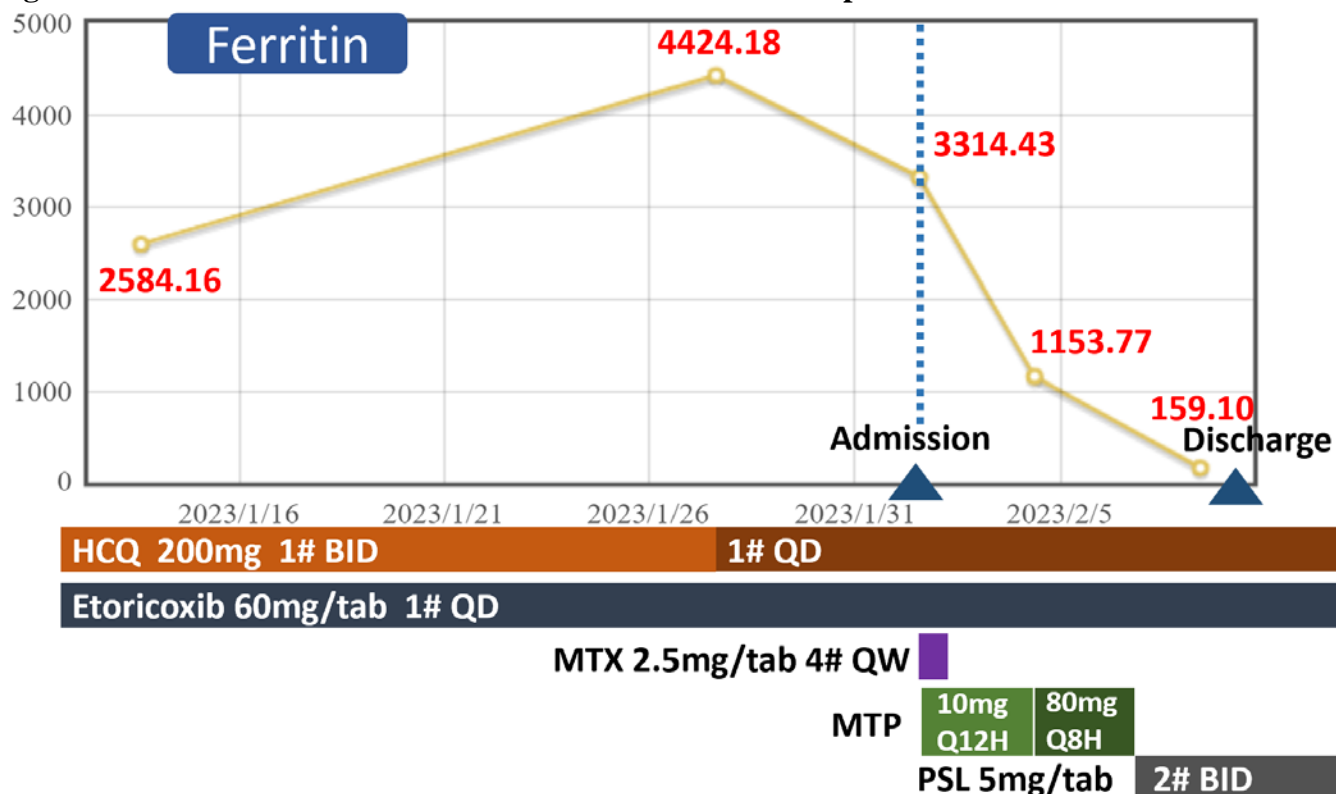
Two months prior to current evaluation, her fever, joint pain and sore throat recurred. She also noticed some faint rashes at her trunk and limbs when her temperature rises. She then came to our hospital for second opinion. Blood sampling revealed persistently elevated liver enzymes, inflammation markers (hsCRP 6.36mg/dL, ESR 42mm/hr), LDH, anemia, leukocytosis, and a markedly elevated ferritin level (4424.18 ng/mL, normal < 204). Splenomegaly also remained on serial abdominal sonography. Admission was arranged. Close observation later confirmed presence of salmon-pink rash. No new evidence of infections or malignancies was identified. She was re-classified as AOSD according to Yamaguchi's criteria. Hydroxychloroquine, etoricoxib and methotrexate (10mg/week) were initiated. A cycle of methylprednisolone mini-pulse therapy was given (Fig. 1). Tocilizumab was considered but not given at last due to quick response to other treatments. She was symptom free now and oral prednisolone was tapered to less than 7.5mg daily.

### Discussion and Conclusion

AOSD remained one of the most common rheumatic diagnoses in patients with fever of unknown origin (FUO) [3]. As an autoinflammatory disorder, it is not surprising that the prevalence and incidence were increased in patients with recent COVID-19 infection or vaccination [4]. Among the cardinal manifestations of AOSD, fever, pharyngitis, lymphadenopathy, abnormal liver enzymes and elevated acute phase reactants may also be seen in acute COVID-19 or post-COVID condition. We want to emphasize the importance to examine organomegaly, skin eruptions and degree of ferritin elevation, which helped us to distinguish AOSD in this patient. The inflammatory response in AOSD may trigger severe organ involvement or complications, such as myocarditis or macrophage activation syndrome. Thus, careful evaluation of disease severity is essential

following diagnosis of AOSD. On top of glucocorticoid and conventional DMARDs, Tocilizumab, anti-interleukin-1 therapies and Janus-kinase inhibitors emerged as new biological/targeted-synthetic DMARDs that help us to manage patient with AOSD [5].

**Figure 1. The treatment course and serial ferritin levels of the patient**



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4. Gottschalk, M.N., Heiland, M., Nahles, S. et al. Orphanet J Rare Dis 2023; 18: 50.
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**Clinical Images: Persistent pruritic eruptions associated with adult-onset Still's disease**



The 44-year-old woman without systemic diseases experienced fever and progressive pruritic skin rash over face and neck (Figure A), four extremities (right upper arm, Figure B) and abdomen (Figure C) for three weeks. She had a similar episode eight months ago and improved after antihistamine and oral steroid use at dermatology outpatient clinic. She also reported sore throat and intermittent hand joint swelling (Left hand at ward in Figure D, Right hand at home in Figure E). Laboratory studies revealed abnormal serum white blood count 11960 /uL, ferritin 10909 ng/mL, CRP 10.48 mg/dL, ESR 65 mm/hr and IgE 57 KU/L. Autoimmune markers including ANA, anti-dsDNA, ANCA, SSA/SSB, RF, ACPA and autoimmune myositis panel were all negative. Bone marrow biopsy reported no neoplasm. Excisional biopsy of right neck lymph node revealed reactive hyperplasia. She received skin biopsy over right forearm and pathologic report showed superficial perivascular infiltrates and dyskeratosis in the upper epidermis, which are compatible with those of persistent pruritic eruption of adult-onset Still disease in appropriate clinical settings. She received oral prednisolone twice daily and Azathioprine once daily after pathology report. Her skin rash, joint swelling and fever subsided, and she is currently well control with Plaquenil twice daily. These images strengthen the importance of skin biopsy in common skin lesion in unique clinical manifestations.

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## Impact of Hydroxychloroquine on Dose-Dependent Reducing Diabetes Mellitus Risk Among Primary Sjögren Syndrome: A Population-Based Study

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### 氫氯奎寧劑量依賴性降低原發性乾燥症患者罹患糖尿病之風險性

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### Abstract

**Background:** HCQ is an antimalarial drug that is widely prescribed for the treatment of Sjögren syndrome. Glucocorticoids may alter glucose metabolism and contribute to diabetes mellitus. Treatment for primary Sjögren syndrome (SS) sometimes requires glucocorticoids that may worsen glucose homeostasis. HCQ can reduce diabetes risk in SLE and RA. This study aimed to investigate the association of HCQ use and diabetes mellitus risk in primary SS patients.

### Methods:

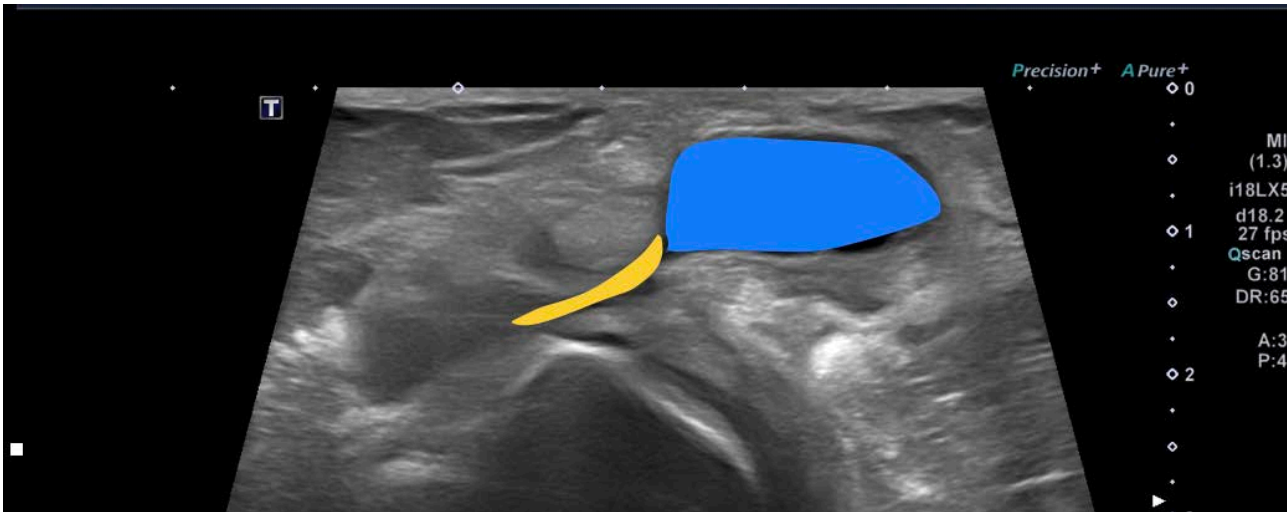
This population-based cohort study utilized data from the Taiwan National Health Insurance Research Database, focusing on primary SS patients between 2006 and 2015. We employed multivariate and stratified analyses, using the Kaplan–Meier method and Cox proportional hazards regression, to evaluate the diabetes risk associated with HCQ and corticosteroids individually, as well as the dose-dependent diabetes risk when concurrent HCQ and corticosteroids use.

**Results:** Five hundred and thirty six newly diagnosed diabetes mellitus patients were identified among primary SS patients (6232 HCQ users and 3116 HCQ non-users), with an average follow-up period of 4.36 years. We observed that compared with those obtained for HCQ nonusers, the aHRs obtained for HCQ users in the  $151 \leq \text{cDDD} < 350$  and  $\text{cDDD} \geq 351$  subgroups were 0.600 (95% CI, 0.454-0.794), and 0.326 (95% CI 0.246-0.433), respectively. Higher corticosteroid ( $\geq 151$  cDDD) was associated with increased risk of developing diabetes mellitus [aHR 1.833(95% CI 1.410-2.383), which was reduced by concomitant HCQ use at a dose  $>350$  cDDD [aHR 0.632 (95% CI (0.421-0.948),  $P < 0.01$ ].

**Conclusions:** This propensity score matched analysis of Taiwanese patients with primary SS found that patients with primary pSS who were administered high doses of HCQ exhibited a significantly reduced risk of developing diabetes mellitus. Conversely, high doses of corticosteroids were associated with a substantial increase in diabetes risk. Importantly, the concurrent use of high doses of HCQ effectively mitigated the diabetes risk associated with high corticosteroid dosages.



## Clinical Images: How to simulate surgical treatment with the ultrasound to define the stalk location of baker cyst



In this context, the blue area represents the main body of the Baker's cyst, while the yellow area indicates the position of the stalk.

Ultrasound plays a crucial role in the localization and guidance of the removal process. The specific steps include:

- 1.Initial Examination: Use ultrasound equipment for an initial examination to determine the location and size of the stalk.
- 2.Localization: Precisely mark the location of the stalk through ultrasound images, aiding the doctor in accurately finding the target during the procedure.
- 3.Surgical Simulation: Before the stalk needling, simulate the removal process using ultrasound images to determine the optimal injection point.

