Methods: Cohort study of IgAV patients (ICD-9-CM 287.0/ICD-10-AM D69.0) using non-exposed age-matched controls (1:3), where pregnancy-related events and outcomes (see table 1 for ICD codes) were extracted from state-wide hospital morbidity data for period 1980 to 2015. Results are presented as odds ratios (95% CI) versus controls.

Results: Pregnancy-related contacts (n=1,440) occurred in 49.5% of all female IgAV patients (n=347) and in 37% of all female controls (n=914). IgAV patients were younger at first pregnancy (23.7 vs 26.4 years, $p<0.01$) and had a higher overall mean number of hospital pregnancy contacts than controls (5.4 vs 3.1, $p<0.001$). IgAV patients experienced 168 uncomplicated live births, 93 complicated (including preterm) deliveries and 32 abortive pregnancies. The risk for abortion (OR 1.3, CI: 0.7 to 2.3), complicated delivery (OR 0.9, CI: 0.7 to 1.3) or classification as high-risk pregnancy (OR 0.94, CI: 0.74 to 1.24) was similar for IgAV patients compared to controls, despite a higher risk of hypertensive disorders (OR 4.4 CI2.1–9.1).

Abstract OP0239 – Table 1. Diagnostic codes used for data extraction from health registries

Definition	ICD9 codes	ICD10 codes
Any pregnancy event	630–80, V22–V24, V27, V30–V40	O00–O85, Z33–Z35, Z37–Z39
Normal delivery healthy child	650.1–9	O80.1–9
Complicated delivery	652–670	O81–O85
Abortive outcome	630–640, 656.4	O00–O08.9, Z33.2
High risk pregnancy	V23–V24	O09–O09.9
Hypertension in pregnancy	642–643	O10–O15.9

Conclusions: In this large population-based longitudinal study, the risk for abortion or complicated pregnancies/deliveries was not increased for IgAV patients. The more frequent hospital contacts and increased risk of hypertension during pregnancy in IgAV patients had little impact on pregnancy outcome.

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OP0240 FAVOURABLE LONGTERM OUTCOME IN PATIENTS WITH GIANT CELL ARTERITIS TREATED WITH TOCILIZUMAB. REAL LIFE DATA FROM A SWISS CENTRE

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Background: Tocilizumab (TCZ) has been shown to be effective for achieving sustained glucocorticoid (GC)-free remission in patients with giant cell arteritis (GCA) ^{1,2}. However, data on real life patients and longterm follow up is still limited.

Methods: We included all patients with GCA or polymyalgia treated with TCZ iv (8 mg/kg/month) in our division from 1/2013 to 1/2018. Safety and efficacy were analysed retrospectively.

Results: 42 patients were analysed (69% female). Patients with involvement of cranial vessels (n=20) were older than patients without cranial involvement (n=16) (72.8±6.4 vs 63.2±10.3 years, $p=0.05$). Initially, 9 patients had AION, vascular stenosis was detected in 10 and aneurysms in 9 patients.

Initial vascular imaging included MR/CT angiography in 36 and 14 patients, ultrasound in 23 patients and PET CT in 8 patients.

Mean duration of TCZ therapy was 18.2±9.6 months with treatment ongoing in 33 patients. Since 2013, the time between diagnosis and initiation of TCZ as well as the number of immunosuppressants before TCZ decreased. All patients initially received iv methylprednisolone followed by standard oral tapering of prednisone starting with 1 mg/kg/d. PMR patients were started on oral GC. Low dose ASS or oral anticoagulants were used in 83% and statins in 55% of GCA patients.

Before the first RCT of TCZ in GCA was reported³, TCZ was initiated in 25 patients after failure of conventional immunosuppressives after a mean disease duration of 12.7±11.2 months. TCZ was started after failure of one immunosuppressant in 19/25 patients, 6/25 patients failed to at least 2 immunosuppressants. Since 12/2015, 17 patients were started on TCZ with a significantly shorter disease duration

(mean 4.1±5.4 months) ($p=0.0047$). 14/17 patients received TCZ after GC alone, in only 3 patients MTX was used before TCZ.

GC free remission was achieved in 24/33 patients (73%) with ongoing TCZ treatment. GC free and TCZ free remission was achieved in 6 patients only (4/6 PMR, 2/36 patients with GCA). Therefore, a favourable outcome was noted in 30/42 patients (76.2%). In 12 patients, TCZ was stopped in patients with GC free remission. 3/11 patients relapsed after 11, 11 and 3 months and responded to reinitiation of TCZ and GC, all achieving GC free remission again. 3 GCA patients stopped TCZ in GC free remission, but died of vascular complications during follow-up.

Infections during TCZ treatment included 2 patients who developed herpes zoster, one patient with RSV pneumonia and one patient with bronchitis, all occurring within the first 6 months of TCZ treatment and during concomitant GC therapy (9.5%). TCZ was reinitiated in all of these patients without subsequent complications. 3 patients developed ischaemic vascular complications (7.1%) during treatment with TCZ: 1 patient with cerebral infarction and 2 patients developed progressive vascular stenosis.

Conclusions: TCZ resulted in GC free remission in 76% of patients. Unfavourable events were limited to infections and vascular complications. However, sustained remission without TCZ was observed infrequently and was mainly limited to patients with PMR. Our data suggest that patients with GCA benefit from continuous treatment with TCZ.

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OP0241 EFFICACY OF TOCILIZUMAB IN TAKAYASU ARTERITIS: MULTICENTER FRENCH RETROSPECTIVE STUDY OF 46 PATIENTS

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Background:

Objectives: We report the long term outcome of 46 TA patients treated with tocilizumab, describe the factors of response and compare the vascular event free survival to DMARDS.

Methods: retrospective nationwide french study

Results: We observed a decrease in the NIH scale; in C-reactive protein levels and in daily prednisone dose at 3 and 6 months, respectively; $p<0.0001$) under tocilizumab. The overall tocilizumab failure free survival was 81% [95% CI: 0.7 to 0.95], 72% [95% CI: 0.55 to 0.95] and 48% [95% CI: 0.2 to 0.1] at 12, 24 and at 48 months, respectively. The presence of constitutional symptoms at the time of tocilizumab initiation (hazard ratio 5.6 [95% CI: 1.08 to 29], $p=0.041$), C-reactive protein level (hazard ratio 1.16 [95% CI: 1.01 to 1.31] for every 10 mg/L, $p=0.003$) were significantly associated with tocilizumab-failure-free survival. The incidence of vascular complications of TA decreased significantly under tocilizumab compared to DMARDS therapy.

Conclusions: This nationwide study shows that tocilizumab may reduce the incidence of vascular complications in TA.

Disclosure of Interest: None declared

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FRIDAY, 15 JUNE 2018

Axial spondyloarthritis: on the interface between healthy and diseased

OP0242

FATTY LESIONS DETECTED ON MRI SCANS IN PATIENTS WITH ANKYLOSING SPONDYLITIS ARE BASED ON THE DEPOSITION OF FAT IN THE VERTEBRAL BONE MARROW

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Background: Fatty lesions (FL), similar to bone marrow oedema (BME) and sclerosis (SCL), are characteristic findings in MRI examinations of patients with ankylosing spondylitis (AS) and degenerative disc disease (DDD). It has recently been shown that FL are associated with syndesmophyte formation in AS. The anatomic correlate of FL has not been studied to date. Current assumptions are solely based on non-invasive data.

Objectives: To examine the cellular composition of FL in the edges of vertebral bodies of patients with AS or DDD by histology.

Methods: Patients with AS or DDD undergoing planned kyphosis correction surgery by spinal osteotomy (in AS) or surgery to correct spinal stenosis (in DDD) were included into this biopsy study. The spinal surgeon (HB) took all biopsies mainly in the area close to the vertebral edge in many of which FL had been seen by MRI (figure 1a for AS and 1b for DDD). Biopsies were decalcified, embedded in paraffin, cut and stained by hematoxylin and eosin. The marrow composition was analysed and the cellularity graded (% surface area) by two different investigators blinded to patients' diagnosis. Four different marrow compositions could be differentiated: (i) fat, (ii) fibrosis, (iii) inflammation and (iv) hematopoiesis (normal).

Results: A total of 60 biopsies mostly obtained from the lower thoracic spine and the lumbar spine of 21 AS patients (mean age 51.7 years, mean disease duration 24.6 years) and of the lumbar spine in 18 DDD patients (mean age 60.1 years) were available. On the patient level, the histological appearance of MRI-FL was different between the groups: fat marrow was present in biopsies of 19 AS (90%) but in only 5 DDD (28%) patients. Inflammatory marrow changes, resembling mononuclear infiltrates, were found in 8 AS (38.1%) and 14 DDD (77.8%) patients at areas with concomitant FL and BME on MRI, while marrow fibrosis was seen in 6 AS (28.6%) and 4 DDD (22.2%) patients at areas with concomitant FL and SCL on MRI. In the semiquantitative histopathological analysis, the mean distribution ($\pm$ standard deviation) of the various bone marrow tissue types in the biopsies differed between the AS vs DD in a similar way, with 43% ($\pm$ 26.3%) vs 16% ($\pm$ 30.3%) for fatty marrow, 11% ($\pm$ 15.5%) vs 55% ($\pm$ 42%) for inflammatory marrow and 9% ($\pm$ 16.1%) vs 13% ($\pm$ 27.8%) for fibrotic marrow, respectively.

Conclusions: The presence of FL on MRI corresponds to fat deposition in the bone marrow of patients with advanced AS. These data show that the MRI change termed 'fatty lesion' is indeed based on the deposition of fat in the vertebral bone marrow in AS. Since vertebral bone marrow is physiologically harbouring hematopoiesis, AS seems to lead to a change in the bone marrow microenvironment with local disruption of hematopoiesis and replacement by fat. The link between fat and new bone formation should be studied in earlier disease stages.

Disclosure of Interest: None declared

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OP0243

PREVALENCE OF INFLAMMATORY AND CHRONIC CHANGES SUGGESTIVE OF AXIAL SPONDYLOARTHRITIS IN MAGNETIC RESONANCE IMAGES OF THE AXIAL SKELETON IN INDIVIDUALS <45 YEARS IN THE GENERAL POPULATION AS PART OF A LARGE COMMUNITY STUDY (SHIP)

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Background: Magnetic resonance imaging (MRI) is crucial for classification and diagnosis of axial spondyloarthritis (axSpA). Characteristic MRI lesions of axSpA are bone marrow oedema (BME) or structural fatty lesions (FL) of the sacroiliac joints (SIJ) and spine. However, the specificity of these lesions has been questioned, since patients with chronic back pain but no axSpA may also have a positive MRI, as shown in recent cohort studies.

Objectives: To investigate the prevalence of BME and FL on MRI of the spine and the SIJ in the general population.

Methods: Volunteers <45 years of the population based Study of Health in Pomerania (SHIP)^{1,2} underwent MRI examinations of the spine (sagittal orientation, T1 and T2 MRI sequences) and the SIJ (coronal orientation, STIR sequences), independently of clinical symptoms. Two trained readers blinded for age and gender of the examined persons evaluated the prevalence of BME (SIJ and spine) and FL (spine) suggestive of axSpA using the ASAS definitions: a lesion in the SIJ was considered positive if located periarticularly and in the middle part of the joint and a lesion in the spine was considered positive if detected at the edge of the vertebral body. Clearly degenerative lesions involving the vertebral endplate or being accompanied by abnormalities of the intervertebral disc (protrusion or prolapse) were not counted.

Results: A total of 802 complete MRI sets (spine and SIJ) of 394 male (49.1%) and 408 female volunteers (50.9%) was evaluated. The mean age of all patients was 37.5 $\pm$ 6.2 years. BME in the SIJ suggestive of axSpA were found in 144 individuals (18%), with an equal distribution between males (n=74, 18.8%) and females (n=70, 17.2%). A similar pattern of BME was found in the spine, again with no differences between males and females. However, the location of the lesions was different: 9.5% had $\geq$ 1 lesion in the cervical, 18.6% in the thoracic and 7.4% in the lumbar spine. Overall, 88.6% male and 84.6% female volunteers were found to have $\geq$ 1% and 54.6% male and 46.1% female volunteers were found to have $\geq$ 3 positive spinal lesions in any spinal region. In comparison, the prevalence of FL was higher (36.7% volunteers in the cervical, 72.4% in the thoracic and 52.7% in the lumbar spine). Overall, 86.5% volunteers were found to have $\geq$ 1% and 50.2% volunteers were found to have $\geq$ 3 positive spinal lesions in any spinal segment.

Logistic regression analysis showed that age was the only demographic characteristic that independently contributed to the occurrence of both BME (RR=1.22, 95% CI: 1.03 to 1.46, p<0.025) or FL (RR=1.12, 95% CI: 1.07 to 1.19, p<0.001).

Conclusions: In this large population-based study with healthy volunteers a relatively high prevalence of inflammatory and structural MRI lesions was found. Whether these lesions are to be explained by mechanical stress needs to be further studied. The high prevalence of BME and FL in the axial skeleton in the general population indicates a limited diagnostic value of these MRI findings. Thus, those should be interpreted with caution in relation to diagnosis, classification and assessment of disease activity.

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