toxicity and two had treatment failures. CRP, ESR and periaortic tissue thickness variations during the follow-up are shown in Supplementary data (respectively in panel A, B and C; red line represents the average change): ESR and CRP significantly decreased ($P = 0.001$ and $P = 0.006$ at month 12 versus baseline) while a reduction in periaortic tissue thickness was also observed although non-statistically significant. The periaortic tissue evolution in one patient at baseline, month 6 and 12 is reported in panel D, E and F of Supplementary data. At month 12 an eGFR improvement was also observed although non-statistically significant; moreover of the six patients presenting with obstructive uropathy, only one had hydronephrosis and two an ureteral stent at month 12. The patients who continued treatment beyond month 12 had a longer relapse-free survival than those who withdrew it ($P < 0.005$).

**Conclusion.**—The combination of methotrexate and prednisone is a feasible option for relapsing CP. Prolonged treatment is likely to avoid further relapses.

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**Table I**

**Vessel-specific outcome.**

<table>
<thead>
<tr>
<th>Lesion location</th>
<th>Aorta</th>
<th>Renal</th>
<th>Carotid</th>
<th>Subclavian</th>
<th>Mesenteric</th>
<th>All vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of lesions at FU</td>
<td>89</td>
<td>112</td>
<td>97</td>
<td>116</td>
<td>42</td>
<td>503</td>
</tr>
<tr>
<td>Angiographic FU (%)</td>
<td>73</td>
<td>86</td>
<td>87</td>
<td>73</td>
<td>93</td>
<td>83</td>
</tr>
<tr>
<td>FU duration (months)</td>
<td>32 ± 36</td>
<td>42 ± 40</td>
<td>38 ± 37</td>
<td>29 ± 28</td>
<td>28 ± 21</td>
<td>33 ± 34</td>
</tr>
<tr>
<td>Original occlusion</td>
<td>6 (7%)</td>
<td>12 (11%)</td>
<td>37 (38%)</td>
<td>62 (51%)</td>
<td>2 (5%)</td>
<td>130 (26%)</td>
</tr>
<tr>
<td>Active disease at PI-1 (%)</td>
<td>51</td>
<td>59</td>
<td>48</td>
<td>40</td>
<td>62</td>
<td>51</td>
</tr>
<tr>
<td>Successful number of PIs</td>
<td>1.37</td>
<td>1.38</td>
<td>1.40</td>
<td>1.60</td>
<td>1.43</td>
<td>1.43</td>
</tr>
</tbody>
</table>

FU: follow-up after final percutaneous intervention (PI); PI-1: first PI.

* Presence of both ESR > 20 mm/hr and CRP > 6 mg/L.

**Conclusion.**—Repeated PIs using contemporary techniques to treat large-vessel lesions in TA yield high sustained success rates with low related risk.

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**P92**

**Outcome of 1516 percutaneous interventions in 401 patients with Takayasu arteritis: a single-center experience from South India**

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Introduction.—During 1996–2012, 401 patients with Takayasu arteritis (TA; age 29 ± 12 years, range 4–64 years; 297 females; type-%: I-18, II-9, III-6, IV-16, V-51), all of whom met clinical criteria for TA (88% also met ACR criteria), underwent 1516 percutaneous interventions (PI) to treat 1044 lesions (712 stenoses, 317 occlusions, 15 aneurysms; 77% symptomatic; PI/lesion 1.45, range 1–7) in large-vessels (aorta 168, renal 253, carotid 159, subclavian 285, mesenteric 85, others 94) at a tertiary care center; at PI-1, 54% had both ESR > 20 mm/hr and CRP > 6 mg/L, 28% either, and 18% neither; all received long-term immunosuppressive therapy.

Methods.—Obstructive lesions were dilated at 12 ± 6 atm pressure (15% needed ≥ 20 atm); 869 (83%) lesions were stented; stented segment length was 50 ± 42 mm, range 6–250 mm. Non-compliant balloons (25%) and cutting balloons (12%) were used for resistant lesions. Early and follow-up (FU) outcomes were analyzed. PI success was defined as < 50% residual stenosis/excluded aneurysm without major complications; ≥ 50% stenosis at FU was considered re-stenosis (RS).

Results.—Early outcome of 1044 PI-1 procedures was: success 974 (93%), sub-optimal/complicated 47 (5%), failure to cross occlusion 23 (2%). FU obtained in 659 PI-1 lesions: 308 (47%) had sustained success, but 351 had RS. PI-2 was done on 317 RS lesions: 205 had FU, 91 (44%) success, 114 RS-2; similarly, PI-3: 101 lesions, 63 FU, 21 (33%) success, 42 RS-3; PI-4: 40 lesions, 25 FU, 12 (48%) success, 13 RS-4; PI-5: 10 lesions, 6 FU, 3 success, 3 RS-5. The cumulative benefit of repeated PI yielded an overall success rate of 435/503 (87%, uncrossable and FU-awaited lesions excluded) at a mean FU of 33 ± 34 months after the final PI. Significant complications were: death 6 (0.4%), arterial rupture 22 (1.4%), intracranial bleed 8 (0.5%), stent thrombosis 22 (1.4%) (table I).

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**P93**

**Aortic dissection in giant cell arteritis: A population-based study of predictors**

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Introduction.—Aortic manifestations are associated with increased mortality in giant cell arteritis (GCA). Size is a main determinant of aortic dissection (AD) in aortic aneurysms (AA) from non-inflammatory causes. Our aim was to explore risk factors for AD in patients with GCA and AA.

Methods.—We used a population-based incident cohort of patients diagnosed with GCA from 1950–2004. All patients with AA in the 1 year prior to GCA diagnosis or any time thereafter were included. Cox proportional hazard models were used to evaluate risk factors for AD.

Results.—The study included 33 patients (91% women), mean age at diagnosis of AA 83.6 years. Median duration of GCA prior to diagnosis of AA was 8.7 years. Location of AA was thoracic in 13 (39.4%), abdominal in 8 (24.2%) and both thoracic and abdominal in 12 patients (36.4%). Eight patients developed AD (3 AD diagnosed same time as AA). Increasing age (HR 0.27 per 10 yrs, 95% CI 0.09, 0.86) and calendar year of AA diagnosis (HR 0.29 per 10 yrs, 95% CI 0.13, 0.69) were associated with decreased risk of AD. Cumulative glucocorticoid dose (HR 0.94, 95% CI 0.82, 1.07) or cumulative erythrocyte sedimentation rate (ESR) (HR 0.98, 95% CI 0.96, 1.00) were not associated with AD.

Mean size of thoracic AA in 4 patients with dissection was 8.4 (range 4.5–5.0) cm compared to 4.97 (range 3.2–8.4) cm in 15 patients without AA (P = 0.65). Size of the AA at diagnosis (HR 1.33, 95% CI 0.40, 4.42) or maximal size of thoracic AA (HR 1.17, 95% CI 0.69, 1.99) was not associated with AD.

Discussion.—Decreased risk of AD among older patients with AA may indicate mortality from other causes before the AA could be clinically symptomatic whereas technological advances in imaging and/or surgery may have led to the observation of decrease in AD with calendar year of AA diagnosis.
**Conclusion.** – In this exploratory study, AA size and amount of previous treatment were not predictors of AD. Size cut-offs currently used to recommend surgery in the general population of patients with AA may not be applicable in GCA.

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**P94 Patients with Takayasu’s arteritis having persistent acute phase response usually have an increased major vessel uptake by 18F-FDG-PET**

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**Introduction.** – Although not uniformly accepted, an increased uptake by 18F-fluorodeoxyglucose positron emission tomography (18F-FDG PET) in large-vessels is accepted to be a sign of active disease in Takayasu’s arteritis (TAK). In this study, we aimed to investigate the value of 18F-FDG-PET for clinical assessment in a subset of TAK patients having a persistent acute phase response (APR) without any signs or symptoms of clinical activity.

**Methods.** – We studied 12 patients with TAK (mean age: 39.2 ± 14.8 years, F/M: 10/2; disease duration: 5.4 years). Patients were clinically inactive (according to the definition of activity by Kerr et al.), while categorized as having “persistent” disease activity by physician’s global assessment due to only APR. All patients were under immunosuppressive treatments including corticosteroids. The severity of large-vessel 18FDG uptake was graded using a four-point scale from grade 0 (no uptake present) to grade III (high-grade: uptake higher than liver). Any uptake in major vessels with a grade ≥ 2 was accepted as “active.”

**Results.** – Mean ESR was 55.5 (30–86) mm/h and mean CRP was 29.6 (7.7–90) mg/L. Active vasculitic lesions were observed by 18F-FDG-PET in 8 of 12 (66%) of the study group, with a mean number of 2.6 (1–4) active vascular lesions. Arcus aorta was involved in 25%, ascending aorta in 20%, right brachiocephalic artery in 20%, descending aorta in 15%, abdominal aorta in 10% and left and right subclavias in 5% each of the investigated vessels. A step-up treatment change was decided in 7 patients according to 18F-FDG-PET results.

**Conclusion.** – We observed increased 18F-FDG-PET uptake in the majority of TAK patients with an increased APR, but clinically silent disease. Although specificity of observed lesions are not clear, 18F-FDG-PET imaging may influence physician’s assessment of clinical activity and treatment choices in TAK.

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**P95 Can serum procalcitonin help to diagnose patients with new onset giant cell arteritis?**

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**Introduction.** – Procalcitonin (PCT) is highly elevated in severe infection and sepsis [1]. In patients with giant cell arteritis (GCA) studies reported PCT not to be elevated [2,3]. Some patients with GCA can present with symptoms and laboratory signs that make the differential diagnosis between arteritis and severe infection a challenging issue. The aim of this study was to examine the levels of procalcitonin in patients with new onset GCA.

**Methods.** – Patients with newly diagnosed GCA were recruited 2010 and 2012. A PCT test was performed at the time of the initial evaluation. All GCA patients had a positive color Doppler ultrasound of the temporal arteries [4] and fulfilled the American College of Rheumatology GCA classification criteria [5]. In addition to procalcitonin, other inflammatory markers as C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) were assessed. The cut-off for elevated PCT was > 0.1 ng/ml for CRP > 5 mg/dl and for ESR > 30 mm/h, respectively. A value of PCT > 0.5 ng/ml was taken as the marker of bacterial infection [3].

**Results.** – Twenty-six patients (10 males and 16 females) entered the study (mean age 71.7 years). Mean PCT levels were 0.1 (0.1–0.24 ng/ml, SD 0.03). Except of two patients with a PCT of 0.17 and 0.24 ng/ml, all the remaining GCA patients had normal PCT values (< 0.10 ng/ml). One GCA patient with mildly elevated PCT (0.17) had acute renal and liver failure at the time of the initial evaluation. Mean ESR was 74.0 mm/h (range 12–131, SD 30.3) and mean CRP at 67.7 mg/dl (range 5–264, SD 49.8). No correlation was seen between PCT and ESR or CRP.

**Discussion.** – PCT is not elevated in the majority patients with new onset GCA and may be a useful marker to distinguish between severe infectious diseases and GCA. However, in GCA patients with concomitant multi-organ failure, procalcitonin levels can be slightly elevated. **Conclusion.** – PCT may be a useful marker in the differential diagnosis between severe infection and GCA.

**References**


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**P96 Large vessel giant cell arteritis: Clinical, imaging characteristics and outcomes**

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**Introduction.** – To describe the clinical, radiographic findings and outcomes in patients with giant cell arteritis (GCA) and upper extremity (UE) large vessel (LV) involvement.

**Methods.** – All patients ≥ 50 years with radiographic evidence of UE involvement from GCA diagnosed between 1999–2008 at a single tertiary care institution were retrospectively identified.

**Results.** – The study included 120 patients (80% female) with UE LV-GCA, mean age at diagnosis 68.2 years. Diagnosis was made by CTA in 49.2%, MRA in 20%, conventional angiography in 29.2%, PET scan in 0.8% and...