**Table 1:**. Volume and thickness of the bone-cartilage unit, femoral head volume and osteophyte area in healthy subjects (HS), osteoarthritis (OA) and rheumatoid Arthritis (RA) patients.

| | Healthy subjects (n = 12) | Osteoarthritis (n = 12) | Rheumatoid Arthritis (n = 6) | ANOVA | OA vs RA | HS vs RA | HS vs OA |
|---|---|---|---|---|---|---|---|
| | | Mean [95%CI] | | | P - value | | |
| **Age** (years) | 62[60;65] | 62 [59;65] | 63[60;65] | *0.984* | — | — | — |
| **Gender** (M:F) | 6:6 | 6:6 | 3:3 | *1.000* | — | — | — |
| **Femoral head volume** ($cm^3$) | 52.0[39.6;64.3] | 43.6[37.3;50.0] | 41.1[33.6;48.7] | 0.233 | — | — | — |
| **Articular cartilage volume** ($cm^3$) | 7.4[5.9;8.9] | 5.1[4.0;6.1] | 2.9[1.6;4.3] | **<0.001** | **0.012** | **<0.001** | **0.021** |
| **Articular cartilage thickness** ($\mu m$) | 1413 [1244;1582] | 1134 [931;1338] | 721[403;1040] | **<0.001** | **0.029** | **<0.001** | 0.086 |
| **Subchondral bone thickness** ($\mu m$) | 227[172;282] | 406[285;527] | 409[186;632] | **0.021** | 1.000 | 0.099 | **0.034** |
| **Calcified cartilage thickness** ($\mu m$) | 108[81.1;143] | 119[94.1;151] | 56.6[25.3;127] | **0.016**† | **0.017** | **0.046** | 1.000 |
| **Osteophyte area** ($mm^2$) | 8.8[2.2;35.7] | 70.9[41.4;121] | 49.2[4.7;513] | **0.008**† | 1.000 | 0.073 | **0.006** |

Data are presented as mean [95%CI], Statistical significance was found using one-way ANOVA. The Post-hoc Bonferroni test was used to identify intergroup differences. †Data not normally distributed was log-transformed and presented as geometric mean [95%CI].

**Conclusion:** Patients with secondary osteoarthritis due to rheumatoid arthritis had thinner articular cartilage and calcified cartilage but were otherwise not significantly different from patients with primary osteoarthritis. Thus, the inflammatory joint in rheumatoid arthritis was associated with a more pronounced loss of cartilage than the degenerative joint disease in primary osteoarthritis. The thicker calcified cartilage in primary osteoarthritis has been attributed to endochondral ossification; this does not seem to be the case in rheumatoid arthritis.

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## AB0797 GRANULYSIN MEDIATED CYTOTOXICITY AND ITS SERUM CONCENTRATION IN PATIENTS WITH KNEE OSTEOARTHRITIS

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**Background:** In OA joint, synovial membrane contain immunocompetent cells (1-4), which produce predominantly pro-inflammatory cytokines (2,5), justifying the name "osteoarthritis" and directing the development of disease towords mild systemic inflammatory condition (6). Granulysin (GNLY) is mediator of cellular immunity expressed in T and NK cells in 15 kDa precursor and 9 kDa cytotoxic forms (2). It is regulated by interleukin 15. We investigated GNLY expression in perifperal blood lymphocytes and GNLY mediated apoptosis *in vitro*, serum concentration of IL-15 and the correlation of GNLY expression with intensity of the pain in the knee of OA patients and with 6-minute walk distance.

**Objectives:** Women with knee OA (20), and healthy control (17) were medically examined, and their blood samples tested. All of them signed informed consent before medical sampling of peripheral blood (PB).

**Methods:** Visual analogue scale (VAS) of pain and results of 6-minute walk test were noticed in all participants. Peripheral blood mononuclear cells were isolated by gradient density centrifugation and intracellular GNLY labeling in CD3-CD56+NK cells, CD3+CD56- T cells and CD3 +CD56+ NKT cells was performed and analyzed by flow cytometry. NK cells' apoptotic activity against NK sensitive K-562 cells was measured in 18-hour PKH-26 (red) cytotoxicity assay with evaluation of propidium iodide-/annexin V+ target cells by flow cytometry. In some samples anti-GNLY and/or anti-perforin antibodies were added. IL-15concentration was measured by ELISA. Nonparametric Kruskal-Wallis and Mann-Whitney U-test, as well as Spearman correlation test were used for statistical evaluation.

**Results:** In lymphocytes of OA patients GNLY expression and NK cell-mediated apoptosis of K-562 cells did not differ significantly from the healthy control. In OA patients only, RC8 antibody against cytotoxic GNLY molecule significantly decreased apoptosis of K-562 cells. RF10 anti-15 kDa GNLY did not show such effect. Anti-perforin antibody completely abolished apoptosis in both groups tested and the effects of additionally added RC8 or RF10 anti-GNLY antibodies were not observed. Serum IL-15 concentration in healthy controls and OA patients was low and did not show statistically significant difference. GNLY expression in lymphocytes, and particularly in NK subset, positively correlated with VAS of pain and 6-minutes walking distance.

**Conclusion:** In OA patients, GNLY mediated apoptosis is involved in apoptosis of NK sensitive K-562 cells *in vitro* and might be involved in the killing of damaged joint cells *in vivo* after direct contact.

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## AB0798 GENDER DIFFERENCES IN DURATION OF SYMPTOMS AND PREOPERATIVE EXPECTATIONS IN TOTAL KNEE ARTHROPLASTY PATIENTS

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**Background:** The literature suggests that women with knee osteoarthritis (OA) perceive greater disability and a lower functional level before total

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