hypothesis of local infectious origin was raised, especially with *Propionibacterium* acnes (PA). The possibility of contamination with saprophyte germs coming from the skin during surgery by posterior approach or by epidural infiltration preceding the surgery was also discussed, but not proved.

Objectives: The main objective of this study was to evaluate the prevalence of slow growing bacteria (SGB) in the intervertebral disc (IVD) obtained during a lumbar spine surgery by anterior approach in Modic 1 and 2 changes. A secondary objective was to compare the prevalence of SGB in IVD in lumbar spine surgery obtained by anterior approach to that obtained by posterior approach in herniated disc.

Methods: 45 patients with chronic LBP or sciatica were included in the study, representing 48 IVD. When patients underwent lumbar spine surgery by an anterior approach, 2 samples of the disc were collected for bacteriological analysis: one sample from the anterior part of the disc distant from epidural space and one sample from the posterior part of the disc. 77 discs samples were obtained, 32 discs samples in Modic 1 or 2 changes by anterior approach, 26 discs samples in no Modic IVD by anterior approach, 19 disc samples obtained by posterior approach. The method to collect disc material was strictly aseptic. Samples were analysed by conventional microbial cultures with specialised enrichment, molecular detection by universal rRNA gene PCR plus sequencing assay. Additionally, all clinical specimens were specifically tested for PA detection using a highly sensitive specific PCR

Results: Regarding bacterial cultures, 12 out of 77 disc samples were positive (16%), including 10 (13%) for PA. The PA specific PCR was positive for one (1%) specimen obtained by posterior approach. The 16s RNA detection was positive for 6 specimen (8%), including one for PA (1%). Modic 1–2: Cultures were positive in 5 cases (16%) with 3 for PA (10%). No specific PA PCR was positive. Only one sample was positive for PA in both culture and 16s PCR. Comparison between anterior and posterior approach: Among the PA positive cultures, 5 were identified from anterior specimens (8.62%) and 5 from posterior specimens (26.32%). Regarding PA cultures, the posterior fragments were more frequently positive than the anterior fragments ($p=0.046$). The number of epidural infiltrations of the lumbar spine does not seem to influence the bacterial contamination prevalence $p=0.746$. The time between the epidural infiltration of the lumbar spine and the surgery does not seem to influence the bacterial contamination prevalence (more or less 6 months) $p=0.23$.

Conclusions: SGB has been identified in culture in 16% of the samples obtained in Modic 1 and 2 changes. The prevalence of PA in culture was significantly higher in samples of IVD collected by a posterior approach compared to anterior approach in spine surgery suggesting a contamination. The results of the specific PCR PAs with a single weakly positive sample reinforce the hypothesis of contamination.

Disclosure of Interest: None declared

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OP0324 MANAGEMENT OF MUSCULOSKELETAL PAIN USING AN ALGORITHM FOR SELECTION OF ANALGESICS

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Background: Musculoskeletal pain is the most common manifestation of osteoarthritis (OA) and non-specific back pain (BP). Treatment of pain includes medications with a different mechanism of action such as paracetamol, non-steroidal anti-inflammatory drugs (NSAIDs), opioid analgesics, muscle relaxants, antidepressants or local glucocorticoid (GC) injections. However, a uniform approach to sequential and complex therapy with these medications is not so far available.

Objectives: The study aims at evaluating the efficacy of combined therapy of musculoskeletal pain in real clinical practice.

Methods: In the open-label study were included 3304 patients (54.3% women and 45.7% men with average age of 48.9 ± 14.6 years) with acute/subacute pain due to OA or BP. The exclusion criteria were the presence of severe co-morbidities and BP in association with neurological disorders. Treatment was carried out in accordance with the following algorithm: for a moderate/severe pain (>4 scores according to an 11-point numeric rating scale, NRS) use of NSAID (aceclofenac), when NSAIDs are contraindicated – tramadol with/without paracetamol, in case of mild pain – topical NSAID with/without paracetamol, and muscle relaxants as indicated. Control of treatment efficacy was carried out on day 7 (a total of 4 visits). Change of therapy could be done at each visit and include switching to the other NSAID if the prescribed drug proved to be ineffective or intolerant, local glucocorticoid (GC) injection, addition of tramadol with/without paracetamol or administration of antidepressants or anticonvulsants. The results of treatment were assessed based on the dynamics of pain using NRS, a number of patients in whom pain was relieved completely and treatment satisfaction (a 0 to 5 rating scale where 0 is the absence of the effect or pain aggravation and 5 is an excellent effect).

Results: The first prescribed medication in 97.5% of patients was oral NSAID (aceclofenac 200 mg per day) and in 67.6% of patients it was aceclofenac in combination with muscle relaxant. By visit 4, pain decreased from 6.9 ± 1.5 to 2.2 ± 1.3 points. Pain was completely relieved in 77.0% of patients. 227 patients (6.9%) dropped out of observation, and 16.1% of patients continued the use of analgesics after four weeks of treatment. The vast majority of patients (88.4%)

evaluated treatment results as “good” or “excellent”. Switching to the other NSAID was required in 8.1% of patients, local injection of GC in 1.9%, administration of antidepressant or anticonvulsant in 1.5%, and hospitalization in 0.25% of patients. Adverse reactions (mostly dyspepsia) were noted in 2.2% of patients.

Conclusions: The use of treatment algorithm based on a complex pathogenetic approach ensures that patients receive an effective and relatively safe pain relief. Oral NSAIDs are the most expedient as first-line treatment in patients with moderate and severe musculoskeletal pain.

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Regulatory molecules in connective tissue

OP0325 TGF-BETA-INDUCED ED-A FIBRONECTIN PRODUCTION BY FIBROBLAST-LIKE SYNOVIAL CELLS CONTRIBUTES TO INFLAMMATION IN OSTEOARTHRITIS

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Background: The pathophysiology of osteoarthritis (OA) involves wear and tear, and a state of low-grade inflammation. Wear and tear leads to tissue degradation followed by tissue repair responses including TGF β -induced myofibroblast production of extracellular matrix (ECM). Fibronectins are an essential part of the ECM, and injection of fibronectin fragments into rabbit joints is an established animal model of OA. Recently, alternatively spliced fibronectin containing the ED-A domain (ED-A FN) has been shown to activate Toll-like receptor 4.

Objectives: In this study, we hypothesize that FN fragments containing the ED-A domain could be one mechanism transducing mechanical events into inflammatory signals in OA.

Methods: Samples of synovial membrane and cartilage were obtained from patients with knee OA undergoing joint replacement surgery. Immunostaining was performed on synovial membranes. Fibroblast-like synovial cells (FLS) isolated by enzymatic digestion of remnant synovial membrane were stimulated with TGF β , TNF α , lipopolysaccharide, IL-6. OA synovial fluid from two different donors, or chondrocyte lysate, and culture supernatants were analyzed for ED-A FN by immunofluorescence staining. ED-A FN fragments were obtained by plasmin digestion of cellular FN. Synovial cells isolated by enzymatic digestion and human monocyte-derived macrophages (MDM) were incubated with recombinant ED-A FN, plasmin, cellular FN, or cellular FN digested with plasmin; and culture supernatants were analyzed for MCP-1 and TNF α .

Results: We hypothesized that ED-A FN is produced by OA FLS in response to products reflecting wear and tear in OA. Indeed, the production of ED-A FN by OA FLS was increased by TGF β , OA synovial fluid, and lysed chondrocytes in all experiments ($n=3$, see figure). ED-A FN co-localized with the myofibroblast marker α SMA in both the OA FLS ($n=3$) and in the OA synovial membranes ($n=8$). We further hypothesized that ED-A FN expression is associated with inflammation in OA. ED-A FN staining was associated with both number of lining layer cells ($\rho=0.85$ and $p=0.011$) and infiltrating sublining cells ($\rho=0.88$ and $p=0.007$) in the OA synovium ($n=8$), and co-localized with both MCP-1 and TNF α ($n=5$). Recombinant ED-A FN increased the production of both MCP-1 and TNF α by MDM ($n=3$) and OA FLS ($n=3$). Finally, we demonstrated that the FN fragments containing the ED-A domain generated the same production of both MCP-1 and TNF α as recombinant ED-A FN.

Conclusions: The disease process in OA shares features with the chronic