Figure 1. Simulated placebo-subtracted difference in spinal PCA use (in mg) for monotherapies and combination treatment assuming a typical placebo-response (4.7 mg). Symbols indicate maximum likelihood model predictions and error bars present 95% CI of re-sampling parameter estimates from the final model variance-covariance matrix 1,000 times

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**Table 1. DALYs for all age and ASR due to a high BMI for OA in 1990 and 2019 and the percentage change as well as EAPC from 1990 to 2019 for China.**

<table>
<thead>
<tr>
<th>Site of OA</th>
<th>Sex</th>
<th>1990 (95% UI)</th>
<th>2019 (95% UI)</th>
<th>Percentage change</th>
<th>EAPC (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All OA</td>
<td>Male</td>
<td>11142.76</td>
<td>99196.59</td>
<td>89.6%</td>
<td>10.81</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>7938.84</td>
<td>6121.16</td>
<td>23.9%</td>
<td>4.14</td>
</tr>
<tr>
<td>Hip OA</td>
<td>Male</td>
<td>1114.76</td>
<td>1137.35</td>
<td>2.0%</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>573.44</td>
<td>583.06</td>
<td>1.6%</td>
<td>0.13</td>
</tr>
<tr>
<td>All OA</td>
<td>Male</td>
<td>3265.59</td>
<td>28012.84</td>
<td>25.7%</td>
<td>3.26</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>481.59</td>
<td>512.42</td>
<td>6.4%</td>
<td>0.37</td>
</tr>
<tr>
<td>Knee OA</td>
<td>Male</td>
<td>451.64</td>
<td>481.59</td>
<td>6.5%</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>978.84</td>
<td>1030</td>
<td>5.4%</td>
<td>0.13</td>
</tr>
</tbody>
</table>

95% UI, 95% uncertainty interval; 95% CI, 95% confidence interval.

**Background:** China has the world's largest population and a high prevalence of osteoarthritis (OA), accompanying by a rapidly ageing and increasingly obese population [-1]. However, the disease burden and secular trend of OA in China have not been well described nor predicted.

**Objectives:** To describe and predict the epidemiological features and secular trends attributable to OA in China from 1990 to 2044 in a comprehensive manner.

**Methods:** Data from the Global Burden of Disease (GBD) Study 2019 were used to estimate the incidence, prevalence, disability-adjusted life years (DALY's) and the related age-standardized rates (ASRs) of OA, as well as the burden of OA due to a high body mass index (BMI). The estimated annual percentage change (EAPC) in the ASRs was used to describe the temporal trend of OA changes and the Norpred age-period-cohort (APC) model was used to predict the disease burden over the next 25 years.

**Results:** The prevalence of OA in China increased from 51.76 (45.95-58.26) million in 1990 to 132.81 (118.00-149.08) million in 2019. The OA incidence increased from 472.53/100,000 in 1990 to 509.84/100,000 in 2019, with an EAPC of 0.36 (0.29-0.44); the OA prevalence increased from 5880.58/100,000 in 1990 to 6330.06/100,000 in 2019, with an EAPC of 0.35 (0.28-0.42), and the ASR of OA DALY's increased from 206.38/100,000 in 1990 to 224.78/100,000 in 2019, with an EAPC of 0.40 (0.32-0.48). The ASR of OA DALY's associated with high BMI increased rapidly from 1990 to 2019, especially in male and hip OA (Table 1). The projections suggested that there will be an increasing trend in the incidence (male 27.92%; female 15.51%), prevalence (male 71.08%; female 50.30%) and DALY's (male 71.93%; female 50.02%) of OA from 2020 to 2044, and the prevalence and DALY's of OA in China would increase by approximately 1.5 times in future 25 years (Figure 1).

**Conclusion:** The disease burden of OA has increased in China in the past 30 years and will continue to rise over the next 25 years. Therefore, prevention and early intervention are pivotal to mitigating the growing burden of OA.

**REFERENCES:**
The surgical technique and outcomes of the surgery were extracted. Due to the nature of the data, no meta-analysis was performed. Data from the studies were pooled and minimal and maximal scores were estimated.

**Results:** The search yielded 215 articles from the Pubmed, OVID and Cochrane databases. From these, 17 articles (reporting on 384 denervation surgeries in 351 patients) were selected. Twelve studies described CMCJ denervation, three described PIPJ denervation, and the others described DIPJ (n=1), MCPJ (n=1) or a mixture of MPCI, PIPJ and DIPJ denervation (n=1). The surgical techniques varied greatly, both in incisions and in the nerves severed, even between studies investigating denervation of the same joint. The innervation of the joints in the hand is still subject to debate. Most of the studies were case series (n=16), and one was a non-randomized clinical trial. Sample size ranged from 3 to 60 participants. All studies had significant risk of bias. The studies consisted of patient groups with average age ranging from 55 to 65 and 60-75% female participants. The sixteen case series reported positive outcomes with respect to pain, function and patient satisfaction. Average pain decrease ranged from 3 to 8.1 on a 10-point numeric rating scale (NRS) (n=8 studies), with a 56-92% patient satisfaction rate (n=5) and mean increase in range of motion of 3.5-27 degrees (n=3).

The non-randomized clinical trial reported no differences in outcome when comparing denervation to trapeziectomy. Adverse event rates ranged from 0-75% of denervation procedures. Sensory abnormalities occurred most, followed by the need for revision surgery and infections of the area of the surgery.

**Conclusion:** Surgical denervation for pain in hand OA shows promise, but the available evidence does not allow conclusions, as for example regression to the mean can strongly influence the observations in case series. More and higher quality evidence is needed before it can be recommended as part of standard care. On the research agenda are 1) the innervation of the joints, 2) the best surgical technique to sever all relevant nerves, and 3) perform high-quality randomized clinical trials to investigate the efficacy of surgical denervation compared to sham, 4) to investigate other interventions targeted at the innervating nerves, and finally 5) the safety of the different surgical denervation techniques.

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**POS1359 PATIENTS ARE ALWAYS RIGHT ASSOCIATION BETWEEN HUMIDITY LEVEL AND PAIN EXPERIENCE IN HAND OSTEOARTHRITIS**

**Keywords:** Pain, Osteoarthritis

M. Pezo1, R. Lacoste Badie2, S. Tuffet2, A. Rousseau2, P. Richette2, B. Faure3, F. Berenbaum1, A. Courties1, J. Sellam1, 1Sorbonne Université, INSERM, Rhumatologie, AP-HP Hôpital Saint-Antoine, Paris, France; 2Sorbonne Université, Service de Pharmacologie Clinique et Plaforme de Recherche Clinique de l’Est Parisien (URCEST), CRB, Hôpital Saint-Antoine, Paris, France; 3Université Paris Cité, Rhumatologie, Hôpital Lariboisière, Paris, France; 4Sorbonne Université, Rhumatologie, Hôpital de la Pité-Salpêtrière, Paris, France

**Background:** While many patients with joint disease report pain changes according to meteorological factors (1), this common belief has not been clearly demonstrated and never been documented in hand osteoarthritis (HOA).

**Objectives:** We aimed to investigate the cross-sectional association between meteorological factors that are ambient temperature and humidity on HOA symptoms.

**Methods:** We used the baseline data from the prospective DIGICOD HOA cohort including patients with established symptomatic HOA. The clinical outcomes were AUSCAN-pain, AUSCAN-stiffness and AUSCAN-function sub scores, VAS-scale for pain during activity, number of spontaneous tender joints and tender joints at palpation. Meteorological data (from Météo France), ambient temperature and humidity, are defined as the mean value observed during the 3 days before inclusion (day of inclusion, D-1 and D-2). Considering non-normal distribution, each outcome was binarized by the median value, in order to define high and low symptoms intensity. Association between self-reported outcome and meteorological data were studied using two logistic regression models (separate models for temperature and humidity), adjusted for age, sex, sum of Kellgren-Lawrence score of all hand joints and Hospital Anxiety Depression scale. Assumption of linearity between temperature or humidity and the logit of the outcomes being not verified, those two parameters were introduced in the models as categorical variables according to quartiles. Results are presented as odds ratio (OR) with 95% confidence intervals (CIs). The reference groups were respectively lower humidity and lower temperature quartile.

**Results:** We have studied 377 patients in whom all variables of interest were available (mean age a standard deviation (SD) 66.5 ± 7.4 years, 85% women). Median AUSCAN-pain subscore was 20/100 (IQR [7; 53]), median AUSCAN-stiffness subscore was 22/100 (IQR [7; 53]), median AUSCAN-function subscore was 32/100 (IQR [13; 53]), median VAS-pain during activity was 42/100 (IQR [22; 66]), median number of spontaneous tender joints was 0/30 (IQR [0; 2]), median...