Prevalence of Femoroacetabular Impingement among Chinese Living in Vancouver, Canada: A Population-Based Study

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Background

- Femoroacetabular Impingement (FAI) is one source of hip pain in young adults and has been suggested as a major cause of hip osteoarthritis (OA).
- The prevalence of FAI was estimated to be over 50% in populations with established OA1,2 and 45% in a primarily Caucasian population in Denmark4.
- Radiographic hip OA is extremely rare in Chinese, but the prevalence of radiographic FAI in the Chinese population is unknown.

Methods

- This study was conducted within IMPAKT-HIP, a large multi-faceted study on the role of FAI and physical activity in cartilage damage and hip pain.
- Chinese participants were recruited in a cross-sectional telephone survey of a random sample of residents in Vancouver (population=2.3 million, 2011 Census. 19% of the population are ethnic Chinese. Over 25% of new immigrants to Vancouver in the past 5 years were from mainland China).
- Eligibility: 1) age 20-49 years; 2) both parents were Chinese descent; 3) were available for an onsite assessment and x-ray session; 4) not have had joint replacement surgery in both hips; and 5) not pregnant.
- All calls were initiated in English. Non-English-speaking Chinese respondents received a second call by an interviewer fluent in Mandarin and Cantonese to assess eligibility.

Results

- 201 participants were recruited in April 2012-January 2013 (Figure 1, Table 1).
- 8 participants (4.0%) had been told they had hip OA by a health professional.
- Based on the hip pain question, 59 (29.4%; women=41, men=18) self-reported having hip pain (Figure 2).
- FAI was defined in 76 individuals (37.8%; bilateral=55, 27.4%; unilateral=21, 10.4%).
- FAI was present in 44/134 women and 32/67 men.
- 58 participants (28.9%) had pincer FAI, 13 (6.5%) had cam FAI and 5 (2.5%) mixed FAI. (Figure 3)

Purpose

- To estimate the prevalence of hip pain and FAI among Chinese living in Vancouver, Canada.

Figure 1: Participant recruitment

<table>
<thead>
<tr>
<th>Screened by call centre (n=741)</th>
<th>Recruited by call centre (n=327)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refused (414)</td>
<td>Invalid (7)</td>
</tr>
<tr>
<td>Screened by study centre (n=320)</td>
<td>Refused (92)</td>
</tr>
<tr>
<td>Consent to participate (n=228; 71.3%)</td>
<td>Did not attend (27)</td>
</tr>
<tr>
<td>Completed (n=201; 62.8%)</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2: Presence of hip pain in 3 age groups

<table>
<thead>
<tr>
<th>Pain</th>
<th>No Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29 (n=41)</td>
<td>30-39 (n=39)</td>
</tr>
</tbody>
</table>

Figure 3: FAI types in men and women

<table>
<thead>
<tr>
<th>Gender</th>
<th>Pincer</th>
<th>Cam</th>
<th>Mixed</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td></td>
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</tbody>
</table>

Conclusion:

- Our findings contribute new information on the prevalence of FAI among Chinese living in North America.
- Further research to examine prevalence of FAI, using standardized methodologies, in populations with high (e.g., Aboriginal populations) vs. low hip OA prevalence may provide further insight into the cause of hip OA.

References: