The prevalence of benign joint hypermobility syndrome (BJHS) in women undergoing pelvic floor surgery for pelvic organ prolapse and incontinence and the risk of repeat surgery.

A prospective study

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Recurrent prolapse? My 8 worst cases requiring mesh and >3 surgical episodes...why?
contortionists?
All had BJHS
Benign joint hypermobility syndrome (BJHS)

Commonly goes unrecognized

Is a worldwide problem

The most frequently occurring of connective tissue disorders (> 5% of population).
A positive score is 5 or over

A positive Beighton score for adults is 5 out of the 9 possible points; for children, a positive score is at least 6 out of 9 points.

As joint mobility is known to decrease by age for adults, include historical information by asking, “Can you now or have you previously been able to...”
BJHS

- Genetic changes affect the formation of collagen fibres.
- These changes cause increased elasticity and fragility of connective tissue.
- Lead to a wide range of debilitating tissue weakness problems.
Collagen fibres... a strong rope
Collagen fibres

- Structure determines the strength and elasticity of ligaments and fascial structures.
Collagenous tissue biomechanics
Tissue stress vs strain load vs extension.
Beighton score does not include the pelvic ligaments.
BJHS a significant factor for Pelvic tissue laxity, Pelvic organ prolapse?
Pelvic ligament laxity often identifiable on examination
Obstetric outcomes are improved

but

Increased rates of pelvic organ prolapse and urinary incontinence have been reported
Aim of study

- To determine whether pelvic floor surgery and the need for repeat surgery are more common for women with BJHS than in the normal population.
Methods
All women undergoing pelvic floor surgery from January 2015 to July 2016

- Underwent clinical assessment including the Beighton score questionnaire for joint hypermobility.
- A score of 5 or more was diagnostic.
- The age, BMI, parity, type of surgery undertaken and previous pelvic surgery history were recorded and statistical differences examined.
Results
Patients having pelvic floor surgery
Jan 2015 –July 2016

Total  276
No of patients identified as hyper mobile  62
22.4 %  Beighton score of 5 or over
Beighton score

- 5 30
- 6-7 17
- 8-9 15
<table>
<thead>
<tr>
<th>Age</th>
<th>Total</th>
<th>Hypermobile</th>
<th>Non-Hypermobile</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>1</td>
<td>1 (1.6%)</td>
<td>0</td>
</tr>
<tr>
<td>31-40</td>
<td>28</td>
<td>10 (16.1%)</td>
<td>18 (7.4%)</td>
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<tr>
<td>41-50</td>
<td>56</td>
<td>18 (29%)</td>
<td>38 (17.6%)</td>
</tr>
<tr>
<td>51-60</td>
<td>65</td>
<td>17 (27.4%)</td>
<td>48 (22.4%)</td>
</tr>
<tr>
<td>61-70</td>
<td>80</td>
<td>12 (19.4%)</td>
<td>68 (31.8%)</td>
</tr>
<tr>
<td>71-80</td>
<td>56</td>
<td>3 (4.8%)</td>
<td>33 (15.4%)</td>
</tr>
<tr>
<td>&gt;80</td>
<td>10</td>
<td>1 (1.6%)</td>
<td>9 (4.2%)</td>
</tr>
</tbody>
</table>
Comparing Age groups for those having surgery
upto 50 yrs vs over 50 yrs

- Patients having surgery are more likely to have hypermobility up to 50 yrs of age.

- Chi square 9.58   p<0.05
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Hypermobile (%)</th>
<th>Non-Hypermobile (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic floor repair</td>
<td>30 (48.4%)</td>
<td>85 (39.8%)</td>
</tr>
<tr>
<td>Vaginal hysterectomy + repair</td>
<td>10 (16.1%)</td>
<td>57 (26.4%)</td>
</tr>
<tr>
<td>TVT +/- repair</td>
<td>13 (21.0%)</td>
<td>43 (20.2%)</td>
</tr>
<tr>
<td>Sacrocolpopexy/SSF</td>
<td>9 (14.5%)</td>
<td>29 (13.6%)</td>
</tr>
</tbody>
</table>
### Comparing surgery for First presentation/recurrence

<table>
<thead>
<tr>
<th></th>
<th>Hypermobile</th>
<th>Not Hypermobile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First presentation</strong></td>
<td>22 (35.5%)</td>
<td>137 (64.1%)</td>
</tr>
<tr>
<td><strong>Recurrence</strong></td>
<td>40 (64.5%)</td>
<td>77 (35.9%)</td>
</tr>
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Chi square 16.03  \( p < 0.001 \)
Results

- Women needing pelvic floor surgery were significantly more likely to be hypermobile than the general population. (22% vs 5%).

- Hypermobile women were more likely to need surgery at a younger age (below 50 yrs) and were more likely to require repeat surgery.
Conclusion

- Women with BJHS may be at a higher risk of needing pelvic floor surgery.
- The need for repeat surgery may also be higher.
- An active approach to diagnosis and management of BJHS which can affect quality of life in many ways is recommended.
BJHS - A genetic advantage for the delivery of a large brain through the human pelvis?

A disadvantage for the lasting integrity of the female pelvic floor?
Ask about BJHS and Clinical features
Thank you

Declarations of Interests:
Clinical Advisor for Nuffield Health UK