Prevalence and risk factors for the chronic venous diseases

ZEUS Study – preliminary results

Last large CVD disease epidemiological study in Poland

Disclosure

No

Study concept background

Population age changes

Life style changes

Potential changes of the prevalence and character of the risk factors e.g. obesity, physical activity etc.

An update of the previous data with an adjustment to the current risk factor prevalence and conditions

ZEUS study

Zbrosławice, Epidemiological, Ultrasound Supported study on the prevalence and risk factors for the chronic venous disease

Commune of Zbrosławice

Silesia region/Poland

Commune population: 14 864
Commune area: 148.71 km²

Study Protocol

Randomly selected patients from the Commune of Zbrosławice data base

Selection from the base of 14 864 subjects:

Examination

- CVD risk factor assessment
- CVD symptom assessment
- CVD sign evaluation on both extremities
- VCSS
- CIVIQ
- US duplex Doppler of the superficial and deep vein system of both legs

1314 patients investigated

ZEUS study - preliminary results

**Current analysis:**

800 out of 1314 investigated patients

- **Age range:** 18-80 yrs
- **Gender distribution:**
  - Female: 50.2%, Median age: 53 yrs.
  - Male: 48.8%, Median age: 52.5 yrs.

**Patients with symptoms and/or signs of CVD**

- Any symptoms or signs: 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%

**CEAP: The highest C class reported in the examined population**

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>30%</td>
<td>16%</td>
<td>10.8%</td>
<td>8%</td>
<td>1.9%</td>
</tr>
<tr>
<td>M</td>
<td>12%</td>
<td>11%</td>
<td>4.8%</td>
<td>6.2%</td>
<td>0.2%</td>
</tr>
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</table>

**Reflux presence and CVD signs**

- **C1 presence in the patients with truncal/saphenous reflux:** 41%
- **C1 presence in the case of any US detected reflux:** 57%
- **C2 presence and truncal/saphenous vein reflux:** 69%
  - Saphenous vein reflux without ostial incompetence: 11%
- **C3 presence with truncal/saphenous vein reflux:** 53%
- **C3 presence with any reflux detected:** 77%

**C1 – C6 changes in the physical examination (general population data)**

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>62%</td>
<td>32%</td>
<td>14.8%</td>
<td>7%</td>
<td>1.1%</td>
</tr>
<tr>
<td>M</td>
<td>35%</td>
<td>22%</td>
<td>14%</td>
<td>6%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Symptom presence in General Population and CVD patients**

- **Symptoms:**
  - Pain
  - Haemorrhoids
  - Sensation of swelling
  - Cramps
  - Pruritus
CVD SYMPTOM PRESENCE in GENERAL POPULATION

Symptomatic patients in the study population (general population): F - 58% / M - 30%

SYMPTOM PRESENCE in CVD patients (C1 – C4)

Zeus study - preliminary results, 800 pts.

Symptom presence in CVD patients (C1 – C4)

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SYMPTOM SEVERITY and C Class

VAS assessment /1-10/ for pain and heaviness

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VSCC in C1-C4 CVD patients

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Genetic predisposition

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BMI and varicose vein occurrence

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Pregancy and C1,C2 occurrence

<table>
<thead>
<tr>
<th>No of pregnancies and C1 occurrence</th>
<th>0</th>
<th>0.5</th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No preg.</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1 preg.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 preg.</td>
<td></td>
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</table>

Increase of the C1 occurrence risk

<table>
<thead>
<tr>
<th>No preg.</th>
<th>1 preg.</th>
<th>2 preg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pregnancy</td>
<td>OR: 1,9</td>
<td></td>
</tr>
<tr>
<td>2 pregnancies</td>
<td>OR: 2,6</td>
<td></td>
</tr>
</tbody>
</table>

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Pregancy as the risk factor for varicose vein (C2) occurrence

1 pregnancy - OR: 1,9
2 pregnancies - OR: 2,6

But

No relationship between occurrence of C1 and C2 and:

- Working in sitting position: NS
- Working in standing position: NS
- Performance of sport activity (at least 3/per week): NS

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Conclusion

1. The prevalence of the chronic venous diseases remains very high/also in the young patient group/
2. The high number of symptomatic patients in the early stages of the CVD, as well as the progressing severity of the clinical advancement and patient reported complains in the older subjects, suggest the necessity of the continuous epidemiological as well as medical follow up of this population
3. BMI, presence and number of pregnancies as well as genetic predispositions remains the major factors influencing on the disease occurrence. The role of other factors should be investigated.

Acknowledgements

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