Sulodexide—What Is It?

- SDX is a Glycosaminoglycan (GAG)-Sulfated polysaccharide
  - fast-moving heparin fraction (FMH, 80%) and dermatan sulfate (DS, 20%)
- GAGs are naturally occurring anionic polycarbohydrates
  - negatively charged polysaccharides
  - MW 1–2,000 kDa

Sulodexide—Properties

- Highly purified GAG mixture
- SDX is extracted from the porcine intestinal mucosa by a patented process
- Pro-fibrinolytic and anti-thrombotic
  - increases tPA and uPA, decreases PAI
  - potentiates antiprotease activities of antithrombin III and heparin cofactor II
  - inhibits FXa and thrombin
- Anti-inflammatory and endothelial protective

Glycosaminoglycan (GAG)

- GAGs have disaccharide units
  - uronic acid
    D-glucuronic acid [GlcA] or L-iduronic acid [IdoA]
  - acetylated amino sugar
    N-acetylgalactosamine or N-acetylglucosamine
- GAGs types:
  - Sulfated: CS, DS, KS, HP, HS
  - Non-sulfated: HA

SDX and VLU Healing

<table>
<thead>
<tr>
<th>Author</th>
<th>Patients</th>
<th>Outcome</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coccheri S, et al</td>
<td>235</td>
<td>Healing @ 3 mo</td>
<td>1.44 (1.12–1.84)</td>
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<tr>
<td></td>
<td></td>
<td>52% vs. 33%</td>
<td>NNT 5 @ 3 mo</td>
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<tr>
<td>Scondotto G, et al</td>
<td>95</td>
<td>Healing @ 2 mo</td>
<td>1.65 (1.06–2.7)</td>
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<tr>
<td></td>
<td></td>
<td>58% vs. 35%</td>
<td>NNT 4 @ 3 mo</td>
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<tr>
<td>Kucharzewski M, et al</td>
<td>44</td>
<td>Healing @ 7 wks</td>
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<td></td>
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<td>70% vs. 35%</td>
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<tr>
<td>Zou Y-X, et al</td>
<td>114</td>
<td>Healing @ 30 d</td>
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Disclosures

Nothing to Disclose No Conflicts of Interest
Randomised, Double Blind, Multicentre, Placebo Controlled Study of Sulodexide in the Treatment of Venous Leg Ulcers

Sergio Coccheri1, Giacomo Scardotto2, Giancarlo Agnelli3, Daniele Aloisi3, Ennetoli Palazzini3, William Zamboni3
for the Venous arm of the SUAIV (Sulodexide-Arterial Venous Italian Study) Group

- RCT multicenter double-blind placebo-controlled
- 31 Italian medical centers
- 120 pts SDX and 110 pts PLC with VLU
- 1st endpoint complete healing at 2 mo
- 2nd endpoint healing at 3 mo, area reduction
- SDX 60 mg IM (20 d) and 100 mg PO (70d)
- Compression bandaging weekly


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<thead>
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<th>PLC (mean ±sd)</th>
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Regression of area over time

P = 0.004 ns


SDX NNT and Relative Rate

- The NNT to obtain one more healed patient on SDX was 7 at 2 months and 5 at 3 months
- The relative chance of healing SDX vs. PLC
  -1.37 (1.07,1.74) after 2 months
  -1.44 (1.12,1.84) after 3 months


Similar baseline characteristics and type of compression


VLU Surface Area Reduction (mean±sd)

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Regression of area over time

0.004 ns


35% vs. 21% P=0.018
52% vs. 33% P=0.004


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  -1.44 (1.12,1.84) after 3 months


Conclusions

• Clinical evidence in Europe that SDX results in increased VLU healing
• Further studies to define duration of SDX treatment
• Longer follow up and ulcer free interval need to be determined
• Larger RCTs examining the effects of sulodexide on healing, ulcer recurrence, quality of life and cost
• Further RCT required in US before FDA approval and clinical use