Is It Possible To Increase Flap Viability By Hydrostatic Dilation? An Experimental Study In The Rat Abdominal Fasciocutaneous Flap Model

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Nothing to Disclose
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OBJECTİVE

To investigate the effect of hydrostatic dilation on a fasciocutaneous flap model as an alternative method to surgical delay.
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18 Wistar rats were used (6 rats in each group)

- Control group
- Surgical delay group
- Hydrostatic dilation group
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Control Group

- The flaps were elevated based on the right-sided superficial inferior epigastric (SIE) vessels
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Delay Group

- The delay procedure was applied to the animals in the delay group on their left sides one week before the flap elevation.
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Hydrostatic Dilation Group

- An isotonic solution was injected over 1 minute.
- During the injection, the pressure was stabilized at 300 mm Hg on average.
We calculated the necrotic area after the excision of the flaps.
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Mean Values of Necrotic Areas of Flaps

<table>
<thead>
<tr>
<th></th>
<th>CONTROL</th>
<th>DELAY</th>
<th>DILATATION</th>
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<tbody>
<tr>
<td>1</td>
<td>46.61</td>
<td>31.55</td>
<td>29.11</td>
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<tr>
<td>2</td>
<td>44.96</td>
<td>22.37</td>
<td>28.99</td>
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<td>3</td>
<td>52.11</td>
<td>33.68</td>
<td>37.53</td>
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<td>4</td>
<td>46.90</td>
<td>40.87</td>
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<tr>
<td>5</td>
<td>38.69</td>
<td>41.28</td>
<td>38.86</td>
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<tr>
<td>6</td>
<td>45.25</td>
<td>30.18</td>
<td>26.06</td>
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<tr>
<td>7</td>
<td>45.75±4.31</td>
<td>33.32±7.11</td>
<td>32.51±5.03</td>
</tr>
</tbody>
</table>
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- we examined the vascularization in angiographic images by dividing them into three zones
- the increased vascularity in the delay and hydrostatic dilation groups was remarkable
CONCLUSION

We consider intraoperative hydrostatic dilation to be a feasible method to improve circulation in compromised tissue.