Groin Jaggers and What We Do with Them

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Groin Injecting

• Refers to the use of the femoral vein as an injecting site in people who inject drugs (PWIDs).

• It is a common practice - 53% of PWIDs having reported ever injecting into the groin [1].

• The natural history and rational behind groin injecting [2]:
  • The mean length of time between first injection and first use of groin was 7 years.
  • The most common reason was that “there were no sites left”. However, the groin site was reported as being the last remaining convenient site.
  • Up to two thirds experienced health problems associated with groin injecting but still persisted with the practice.
Groin Injecting - Complications

• Cellulitis.
• Abscesses.
• Pseudo-aneurysms.
• Aorto-venous fistulas.
• Foreign bodies.
• **Deep vein thrombosis.**
Deep Vein Thrombosis

• Pathogenesis [3]:
  • **Blood alterations**: insoluble microparticles, microorganisms.
  • **Vessel wall**: multiple injections, vein wall irritation/inflammation.
  • **Venous stasis**: tension from scars, pressure (e.g. from aneurysms/abscesses), states of narcotic stupor.

• Risk factors:
  • type of injected substances, non-hygienic injections of substances, groin injection, homelessness and poor contact with medical services.
Deep Vein Thrombosis

- DVT is the third most common cause of hospitalisation in PWIDs [4].
- Injecting drugs contributes towards 48.4% of DVTs in patients under the age of 40 [5].
- 22% of PWIDs have previously experienced a venous thrombosis [6].
- DVTs due to groin injection are more often bilateral, right sided and involve the femoral/iliac vein [3].
- Can present with more systemic features including fever, polyarthralgia and malaise [7].
Deep Vein Thrombosis - Management

• Management challenges in PWIDs:
  • Missed appointments.
  • Poor compliance with treatment regimes.
  • No primary care physician for follow-up.
  • No fixed abode.
  • High self-discharge rates.
Deep Vein Thrombosis - Management

“With differences in pathophysiology, presentation and patient group; should DVTs induced by injecting drugs be managed differently from ‘conventional DVTs’ and are they currently being managed differently in clinical practice?”
Aims

• To review the evidence base behind the treatment of DVTs induced by injecting drugs and whether they should be managed differently to ‘conventional’ DVTs.

• To review National and local Scottish guidelines to find out how DVTs induced by injecting drugs are currently being managed.
Evidence Base - Management

- Significant paucity of evidence.
- All evidence was either expert opinion, case report or retrospective analysis.
- Patient groups usually small.
- No RCTs.
- No data on DOACs.
Evidence Base – Review Articles

  • Anticoagulation therapy needs to be applied at an individual basis.

  • LMWH is a safe and effective treatment for DVTs.
  • However, it stated that the evidence was very limited and recommended following local guidelines.
Evidence Base – Choice of Anticoagulant

• Warfarin is unsafe in this patient group [9-11].

• LMWH was the anticoagulant of choice due to its more predictable anticoagulant effect and need for less frequent monitoring.

• Comparing LMWH and warfarin in terms of patient follow-up and compliance [12]:
  • 4/5 patients on LMWH attended 90% of their clinic appointments and had no complaints with their therapy.
  • 2/10 patients on warfarin achieved the minimum clinic attendance of 75% with satisfactory INRs only 35% of the time.
Evidence Base – Duration of Anticoagulation

• No real clear consensus from the literature with regards to the ideal duration.
• Durations in the literature varied between 6 weeks – 6 months.
• Two studies recommended at least 6 weeks of anticoagulation with LMWH [11,13]:
  • Poor compliance with treatment; 6 weeks was thought to be a pragmatic approach.
  • However, both studies stated higher rates of DVT recurrence/chronically swollen leg with this short duration.
  • Were the high recurrence rates due to inadequate compliance or due to the persistence of injecting?
Evidence Base – Duration of Anticoagulation

- Two studies suggested longer durations of anticoagulation [14-15].
- One study [14] suggested 4 months of LMWH. It separated patients into two groups; LMWH for 4 months or for 6 months. No PEs or recurrent DVTs occurred in these patients and there was no difference in outcomes between the two groups.
- The other study [15] suggested LMWH for 3 months. This was because there was a relatively low rate of pulmonary embolism (PE) amongst its patients (6%).
  - As PWIDs were not at a greater risk of PE than the general population, there was no evidence to support deviation from the 3-month treatment recommendation for a first DVT that is applied to conventional DVTs.
Evidence Base – Duration of Anticoagulation

• Lifelong anticoagulation?
  • For those who continued to inject and have recurrent DVTs.
  • Overall, it was felt that the risks outweighed the benefits and is not to be recommended [11].
Evidence Base - Complications

• Sepsis.
  • 63% of their patients with DVTs have associated cellulitis/groin infections [11]
• Pulmonary emboli.
• Post-thrombotic symptoms.
• Bleeding?
Guidelines – How are They Being Treated?

- **National : November 2015.**
  - SIGN, NICE and the British Haematology Society.
- **Regional: November 2015 – January 2016.**
  - Haematologists and Acute Medical Physicians from all 14 NHS Scotland health boards were contacted.
  - Professionals from 11 NHS Scotland health boards got back in touch. 7 had specific guidance for the management of DVTs in PWIDs.
<table>
<thead>
<tr>
<th>National Guidelines</th>
<th>Suggest Management for ‘Conventional’ Provoked Proximal DVTS</th>
<th>Recommended Management for DVTs Secondary to Injecting Drugs</th>
<th>Level of Evidence for DVTs Secondary to Injecting Drugs</th>
<th>Notes on Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICE, June 2010</td>
<td>Warfarin for 3 months at a target INR of 2.5 after an initial period with LMWH/UFH/fondaparinux</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>SIGN, December 2010 (updated in October 2015)</td>
<td>Warfarin for 3 months at a target INR of 2.5 after an initial period with LMWH/UFH/fondaparinux</td>
<td>LMWH</td>
<td>Grade 3: evidence is from non-analytic sources e.g. case reports</td>
<td>Unsuitable for warfarin due to issues with venous access and compliance with oral therapy. Did not state ideal duration of LMWH</td>
</tr>
<tr>
<td>BHS 2010 Guidelines</td>
<td>Warfarin for 3 months at a target INR of 2.5 after an initial period with LMWH/UFH/fondaparinux</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>BHS 2005 Guidelines</td>
<td>Warfarin for 3 months at a target INR of 2.5 after an initial period with LMWH/UFH/fondaparinux</td>
<td>LMWH</td>
<td>Grade C: further research is required to improve confidence in this recommendation</td>
<td>LMWH should be an alternative instead of warfarin. Did not state ideal duration of LMWH</td>
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<tr>
<td>‘Conventional’ DVTs</td>
<td>DVTs Secondary to Injecting Drugs</td>
<td>Notes on Management</td>
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<tr>
<td><strong>Anticoagulant</strong></td>
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<tr>
<td>1. Rivaroxaban/warfarin</td>
<td>6-12 weeks until follow up to decide on further duration</td>
<td>LMWH 6 weeks until follow up to decide on further duration</td>
<td>• Do not give warfarin</td>
<td></td>
</tr>
<tr>
<td>2. Rivaroxaban/warfarin</td>
<td>3-6 months</td>
<td>Option 1: Rivaroxaban 6 weeks</td>
<td>• Off label duration but safer if patient unstable</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Option 2: Rivaroxaban/warfarin 3-6 months</td>
<td></td>
<td></td>
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<tr>
<td>3. Rivaroxaban/warfarin</td>
<td>6 months</td>
<td>LMWH 3 months</td>
<td>Patient inclusion factors</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Known/previous PWID with poor venous access</td>
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<td></td>
<td></td>
<td></td>
<td>• No CI</td>
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<td></td>
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<td></td>
<td>• Normal renal and liver function</td>
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<tr>
<td>4. Rivaroxaban/warfarin</td>
<td>3 months for provoked, 6 months for spontaneous</td>
<td>Rivaroxaban 3 months</td>
<td>• If on therapy for HIV/HCV, give LMWH</td>
<td></td>
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<tr>
<td>5. Rivaroxaban/warfarin</td>
<td>3 months</td>
<td>LMWH 6 weeks</td>
<td>N/A</td>
<td></td>
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<tr>
<td>6. Rivaroxaban</td>
<td>6 months</td>
<td>Rivaroxaban 6 months</td>
<td>• Treat the same as other DVTs but do not extend beyond 6 months</td>
<td></td>
</tr>
<tr>
<td>7. Rivaroxaban</td>
<td>3 months for provoked, 6 months for spontaneous</td>
<td>LMWH 6 weeks</td>
<td>• Do not give warfarin</td>
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What Conclusions Can We Take To Help Improve Management?
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1. Prevent the patient groin injecting or developing a DVT in the first place.
   - Structured safer injecting training for PWIDs.
   - Needle exchange services and needle education.
   - Education with regards to the drugs used.
   - Education about aseptic injecting.
What Conclusions Can We Take To Help Improve Management?

2. **Treatment needs to be individualised.**
   - DVTs secondary to injecting drugs are due to a local rather than a systemic stimulus.
   - A patient who has stopped groin injecting should theoretically receive a shorter duration of anticoagulation compared to those who continue to inject or have other risk factors.
   - Ideally patients should receive at least 6 weeks of anticoagulation and then be followed-up at this point to decide whether they require further treatment.
   - Always need to consider coexisting infection/sepsis.
What Conclusions Can We Take To Help Improve Management?

3. **Compliance needs to be improved.**
   - Supervised once daily injections/oral tablets?
   - Could be done at general practices, addiction services or when a patient collects their opioid substitution therapy.
   - Labour intensive but would ensure compliance.
   - Would patient be more likely to take tablets or have injections?
   - DOAC vs LMWH.
What Conclusions Can We Take To Help Improve Management?

4. Possible opportunity for getting help to stop injecting.
   ◦ Factors that contribute towards cessation of groin injecting [16]:
     ◦ Being on opioid replacement therapy for a prolonged time.
     ◦ Developing health complications related to injecting.
What Conclusions Can We Take To Help Improve Management?

5. **More evidence is required.**
   - Further literature is required to build confidence in this field.
   - It is difficult to carry out any sort of randomised controlled trial in these patients.
   - The use of DOACs in regional protocols highlights that decisions are being made on expert opinion alone.
   - Whilst this might not be the most evidence based means, it is the most pragmatic in dealing with this patient group.
Thank You – Questions?


Refences


