Prevalence of Symptomatic Venous Thrombo-Embolism in Patients with Total Contact Cast for Diabetic foot Complications
A Retrospective Case Series.

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Wirral University Teaching Hospitals NHS Foundation Trust

AOFAS Seattle 2017
Disclosure

NO CONFLICTS TO DISCLOSE

Prevalence of Symptomatic Venous Thrombo-embolism in Patients with Total Contact Casts for Diabetic foot Complications; a Retrospective Case Series.

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Our disclosures are in the final AOFAS mobile app. We have no potential conflicts with this presentation.
Introduction

- Venous Thrombo-embolism (VTE), including Pulmonary Embolism (PE) and Deep Vein Thrombosis (DVT) cause 25,000 deaths per year in England.

- Estimation of the effect of lower limb cast immobilisation on the development of VTE ranges between 1.5-34% as a risk factor.

- All patients undergoing lower limb casting for trauma or elective foot and ankle surgery are now risk assessed and prescribed thromboprophylaxis according to risk at our institution.
Total Contact Casting (TCC) is a technique for the treatment of complications of diabetic peripheral neuropathy. TCC is employed in the following conditions:

- Offloading of diabetic foot ulceration to aid healing
- Early phase of charcot fracture dislocation.

There are no reported rates in the literature of VTE in Total Contact Cast in a diabetic population.
Method

- Patients who had undergone limb immobilisation in a total contact cast within an NHS Trust located in the North-west region of England (UK) were identified.

- Retrospective Review of Case Notes
  - Demographics
  - Length of time in cast.
  - Co-morbidities.
  - Any use of anti-coagulation
  - Evidence DVT/ PE
Study Group

- 18 patients.
  - 2/18 Type 1 Diabetic
  - 16/18 Type 2 Diabetic
- Age: 46 – 78 (median 56).
- HbA1c: 45 – 122 (median 74).
- BMI unavailable for all patients so not included.
- Multiple co-morbidities
## Results

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<td>51</td>
<td>76</td>
<td>yes</td>
<td>Type 1</td>
<td>Hepatitis C, Epilepsy, Chronic Osteomyelitis, Peripheral Neuropathy</td>
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<td>&lt;2 weeks</td>
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<td>2</td>
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<td>122</td>
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<td>85</td>
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<td>Diabetic Retinopathy, Neuropathic foot ulcers</td>
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<td>&gt;2 weeks</td>
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<td>82</td>
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<td>&lt;2 weeks</td>
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<td>8</td>
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<td>67</td>
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<td>&gt;2 weeks</td>
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<td>Yes</td>
<td>Type 2</td>
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<td>Yes</td>
<td>&gt;2 weeks</td>
<td>Yes (4)</td>
<td>No</td>
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<tr>
<td>16</td>
<td>58</td>
<td>50</td>
<td>Yes</td>
<td>Type 1</td>
<td>CKD, PVD, Obesity, Amputee</td>
<td>Yes</td>
<td>&gt;2 weeks</td>
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<td>18</td>
<td>55</td>
<td>60</td>
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<td>Type 1</td>
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<td>&gt;2 weeks</td>
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</table>
Results

All patients had a diagnosis of diabetes mellitus

All patients had other significant co-morbidities.

Treatment initiated for Charcot and/or ulceration

Duration in cast between 1 week and 3 months.

No patients had a documented DVT or PE during or after limb immobilisation.

One patient excluded as was on long term anticoagulation.
Conclusions

No documented evidence of a VTE event whilst in a total contact cast.

None of the patients included were documented as having VTE prophylaxis during this time.
The pathologies treated in total contact cast differ from those in trauma and elective cases treated in standard below knee cast.

These pathologies as well as the cast technique may contribute to a different VTE risk rate in this group.

Use of a rocker sole on the total contact cast allows weight bearing which may be protective against venostasis.

The arteriovenous shunting in neurovascular arthropathy may be protective in those kept non weightbearing in cast.
Recommendations

- A larger prospective population is needed to confirm these findings.

- Local policies for VTE risk assessment and thromboprophylaxis of those treated in TCC may need to be rethought as compared to standard trauma and elective cases requiring lower limb immobilisation.

