



HAL
open science

The importance of Venous Thromboembolism – a physical consequence of psychiatric treatments

Gerard Stansby, Simon Noble, Oliver Howes

► **To cite this version:**

Gerard Stansby, Simon Noble, Oliver Howes. The importance of Venous Thromboembolism – a physical consequence of psychiatric treatments. *International Journal of Clinical Practice*, 2010, 64 (8), pp.1005. 10.1111/j.1742-1241.2010.02435.x . hal-00552662

HAL Id: hal-00552662

<https://hal.science/hal-00552662>

Submitted on 6 Jan 2011

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



The importance of Venous Thromboembolism – a physical consequence of psychiatric treatments

Journal:	<i>International Journal of Clinical Practice</i>
Manuscript ID:	IJCP-03-10-0190.R1
Manuscript Type:	Editorial
Date Submitted by the Author:	29-Mar-2010
Complete List of Authors:	Stansby, Gerard; Freeman Hospital, Vascular Surgery Noble, Simon; Cardiff University, Palliative Care Howes, Oliver; Kings College London, Psychiatry
Specialty area:	



1
2 **The importance of Venous Thromboembolism – a physical consequence of psychiatric**
3 **treatments.**
4
5
6

7 Gerry Stansby¹, Simon Noble², Oliver Howes³.
8

- 9 1. Freeman Hospital and Newcastle University, Newcastle upon Tyne, UK
10 2. Department of Palliative Medicine, Cardiff, UK
11 3. Institute of Psychiatry, Kings College, London, UK
12

13 **Author for correspondence**

14 Professor Gerard Stansby M.Chir., F.R.C.S.
15 Professor of Vascular Surgery
16 Freeman Hospital and Newcastle University
17 Northern Vascular Unit
18 Freeman Hospital
19 Newcastle upon Tyne
20 NE7 7DN

21 Tel. 01912137204

22 Fax 01912231489

23 Email: Gerard.stansby@nuth.nhs.uk
24
25
26
27
28
29
30

31
32 Venous thromboembolism (VTE) is a big problem, and it is big problem that has a large
33 iatrogenic and preventable component: it is estimated that 25,000 people in the UK die from
34 preventable hospital-acquired venous thromboembolism (VTE) every year¹. This includes
35 patients admitted to hospital for medical care of all types and for surgery, and is many times
36 more than deaths from methicillin resistant staphylococcus aureus infection, for example. The
37 inconsistent use of prophylactic measures for VTE in hospital patients has also been widely
38 reported². However, there is a paucity of data specifically related to patients with psychiatric
39 disorders. NICE have recently issued evidence-based guidance on VTE prevention for all adult
40 hospital in-patients in England and Wales³. This guidance applies equally to psychiatric units and
41 day surgery units, although it does not specifically mention them as a separate group. At the
42 heart of the new guidance is the requirement to assess all patients on admission and again within
43 24 hours⁴. This recommendation also forms the key element of the new Commissioning for
44 Quality and Innovation (CQUIN) targets for Hospital Trusts in England and Wales and VTE
45 prevention has now been declared one of two key priorities for the NHS over the coming year⁵.

46 It has been known for many years that immobility is a major potential cause of venous
47 thromboembolism (VTE). Immobility decreases lower limb venous flow by abolishing the calf
48 muscle pump and immobility in the sitting position is likely to be worse than lying down due the
49 pooling effects of gravity in the lower limb veins. Likewise, endothelial perturbation from
50 surgery or trauma also increases the risk. Other key risk factors include dehydration, cancer,
51 increasing age and weight and a prior history of Deep Vein Thrombosis (DVT) or Pulmonary
52
53
54
55
56
57
58
59
60

Deleted: Would suggest adding something about excessive sedation and sitting in a chair all day as being of concern as well!

Deleted: due to a lack of data

1
2 | Embolism (PE). The U.K. Department of Health (DH) have recently developed a simple risk
3 factor score which balances the risks of VTE against any bleeding risks for hospital patients⁶. Deleted: o
4 Non- surgical patients are considered at high risk if they are expected to have ongoing reduced
5 mobility relative to their normal state and have one or more other stated risk factors⁶. Of interest
6 in psychiatry is the fact that electro-convulsive therapy and antipsychotic drugs can also increase
7 the risk of thrombotic disorders, including VTE, the latter probably by a mechanism involving
8 platelet activation⁷⁻⁹. Physical restraints themselves may increase thrombogenicity especially if the
9 process is traumatic¹⁰. Psychiatric patients receiving physical restraint may therefore have a
10 number of risk factors indicating an increased VTE risk, including sedation and prolonged
11 immobility in the sitting position. The case reports of VTE and even death following physical
12 restraint show that this is of more than just academic interest¹¹⁻¹². However, this risk appears to
13 be poorly appreciated and under-researched- physical restraint is not mentioned as a specific risk
14 factor in the U.K. DH risk assessment tool and there is little data on the magnitude of risk in Deleted: o
15 patients receiving it in the published literature

16
17 For these reasons the article by Hert et al in the current issue is very timely. This study presents
18 data on 679 Belgian patients with schizophrenia of whom 170 had been secluded.
19 Pharmacological VTE prevention was used in 38% of these secluded patients but Hert et al
20 found no evidence that non-pharmacological interventions had been attempted, either before or
21 in combination with pharmacological prophylaxis in any patient. Whilst it is reassuring that
22 prevention is used in some patients, and that no cases of DVT occurred, these findings raise a
23 number of important issues for psychiatric practice. Most strikingly, they suggest that patients
24 receiving seclusion are not receiving the least invasive interventions, and that the majority receive
25 no preventive intervention whatsoever. Given that in this study, and in general, most seclusions
26 are against the patients' will, this is exposing the patient to an iatrogenic and preventable risk to
27 which they have not consented. In view of this it is clearly of paramount importance that both
28 the risks associated with them and the invasiveness of the procedure are minimised. Risk
29 assessment should be the first step, factoring in the degree of restraint and immobility of the
30 patients and the known risk factors discussed above. Further work is clearly needed to define
31 specific risks in this group of patients and appropriate measures to combat it, although the data
32 reported by Hert et al indicate that the use of non-pharmacological interventions needs to be
33 increased. There is likely to be considerable variation in practice between different units and
34 units should be aware of their own protocols and audit their usage probably through a local
35 thrombosis committee. It is also important to offer patients and/or their families or carers verbal
36 and written information on the signs and symptoms of deep vein thrombosis and pulmonary
37 embolism, and the importance of seeking medical help and who to contact if DVT, PE or
38 another adverse event is suspected.

39 The message is that further research is needed. However, at the present time it seems
40 appropriate to individually risk assess all admitted psychiatric patients for VTE and bleeding risk
41 and consider physical restraint and the use of antipsychotic therapy as additional risk factors
42 mandating prophylaxis.

43
44 Gerry Stansby, Simon Noble, Oliver Howes.
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

References.

1. Department of Health. Report of the independent expert working group on the prevention of venous thromboembolism (VTE) in hospitalised patients. 2007. www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_073950.pdf.
2. Hunt BJ. Awareness and politics of venous thromboembolism in the United Kingdom. *Arterioscler Thromb Vasc Biol* 2008;28:398-9.
3. NICE clinical guideline 92. Reducing the risk of venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients admitted to hospital. <http://guidance.nice.org.uk/CG92>
4. Hill J, Treasure T; National Clinical Guideline Centre for Acute and Chronic Conditions. Reducing the risk of venous thromboembolism in patients admitted to hospital: summary of NICE guidance. *BMJ*. 2010 Jan 27;340
5. Using the Commissioning for Quality and Innovation (CQUIN) payment framework – an addendum to the 2008 policy guidance for 2010/11. Department of Health. http://www.dh.gov.uk/dr_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_110431.pdf
6. Department of Health. Risk assessment for venous thromboembolism (VTE). www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_088216.pdf.
7. Dietrich-Muszalska A, Rabe-Jabłońska J, Olas B. The effects of the second generation antipsychotics and a typical neuroleptic on collagen-induced platelet aggregation in vitro. *World J Biol Psychiatry*. 2010 Mar;11(2 Pt 2):293-9.
8. Thomassen R, Vandenbroucke JP, Rosendaal FR. Antipsychotic medication and venous thrombosis. *Br J Psychiatry*. 2001 Jul;179:63-6.
9. Singh G, Wahi S. Pulmonary embolism in the ECT patient: a case report and discussion. *Gen Hosp Psychiatry*. 2008 Jan-Feb;30(1):87-9.
10. Dickson BC, Pollanen MS. Fatal thromboembolic disease: a risk in physically restrained psychiatric patients. *J Forensic Leg Med*. 2009 Jul;16(5):284-6.
11. Laursen SB, Jensen TN, Bolwig T, Olsen NV. Deep venous thrombosis and pulmonary embolism following physical restraint. *Acta Psychiatr Scand*. 2005 Apr;111(4):324-7
12. Hewer W, Kauder E, Vierling P. Fatal pulmonary embolism following antipsychotic treatment and physical restraint. *Pharmacopsychiatry*. 2009 Sep;42(5):206-8.