APPROACH TO VENOUS THROMBOEMBOLISM RISK IN HOSPITALIZED PSYCHIATRIC PATIENTS – A PROPOSAL

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OBJECTIVES

We review current evidence regarding Venous Thromboembolism (VTE) incidence in hospitalized psychiatric patients, VTE risk assessment, and on prophylactic approach, illustrated by a description of a case report with VTE during hospitalization.

BACKGROUND AND AIMS

Venous thromboembolism is a frequent cause of preventable illness and death in hospitalized patients. About 25% of all cases of VTE are associated with hospitalization, and 50 to 75% of cases of VTE in hospitalized patients occur in those on the medical service.

The risk of venous thromboembolism is related to the presence or absence of specific risk factors, and it increases if multiple risk factors are present, as is the case in most hospitalized patients. There are also risk factors specific to the psychiatric population:

Risk Factors:	Acute Infection, Active Cancer, Heart failure, AMI, Acute respiratory disease, Stroke, Rheumatic disease, IBD, Previous VTE, Older age (>70 y), Recent surgery or trauma, Immobility or paresis, Obesity (BMI >30), Hormonal Therapy
Psychiatric Population Specific Risk Factors	<ul style="list-style-type: none"> - Immobilization - especially for greater than 24 hours - Sedation - Psychopharmacology – namely the use of antipsychotics, specifically clozapine and low potency first-generation antipsychotics - Psychopathology, such as in catatonic and affective disorders - Poor compliance

Hospitalized Psychiatric Patients have a higher risk of VTE as a result of physical restraints, psychopharmacology, and from the psychiatric illness itself, and this may affect their treatment and prognosis. Considering the morbidity and mortality risk of VTE, it is important to identify and attend to at-risk patients on admission.

MATERIALS AND METHODS

Non-systematic review through literature research databases Pubmed/Medline, using the keywords: “thromboembolism” and “psychiatry” and case report description.

CASE REPORT AND DISCUSSION OF LITERATURE FINDINGS

Case Report

- History of Bipolar Affective Disorder.
- Admitted upon manic exacerbation after refusal to take medication.
- Became agitated and non compliant, leading to being physically restrained.
- No early introduction of prophylactic anticoagulation.
- 3 days later developed a sudden onset of dyspnea with rapid progression to hypoxemic respiratory failure.
- Positive D-Dimers and ECG with sinus tachycardia.
- CT Angiography showed a saddle thrombus in the pulmonary artery, which confirmed the diagnosis of Bilateral Massive Pulmonary Embolism.

The patient was transported to the ICU and initiated thrombolysis; and after stabilization of her clinical status was transferred to the psychiatric ward and later discharged with anticoagulation and follow-up in internal medicine consultation.

This case report and the evidence identified in the literature highlights the necessity for risk assessment and for a prophylactic approach on hospital admission – it is proposed the **Padua Prediction Score**, a checklist which takes into account the presence or absence of the risk factors previously discussed, converting it to a 20 point scoring system, where the higher the score, the higher the risk of VTE.

A score of ≥ 4 out of 20 warrants the institution of prophylactic anticoagulation.

One of the main problems in establishing such a risk factor-triggered strategy is that restrained patients often are uncooperative. Thus, most of the risk factors cannot be sufficiently assessed – the patients’ weight cannot be determined in time and information regarding prior VTE, malignancy or contraceptives can only be obtained from relatives or friends. Consequently, a valid assessment of individual VTE risk is not possible in all patients who have to be restrained for acute and chronic psychiatric disorders.

CONCLUSION

There is a general consensus that VTE is a preventable complication, however, there is currently no established and widespread tool for VTE risk assessment on psychiatric admission. Evidence indicates that prophylaxis for venous thromboembolism is underused in hospitalized psychiatric patients.

The Padua Prediction Score is a validated tool which can be used to initiate prophylaxis by identifying at-risk hospitalized patients. Technical monitoring in patients who are restrained at five points may be possible using pulse oximetry - In case of oxygen desaturation, D-dimer concentration can be determined by a blood test to help diagnose thrombosis. Finally, CT could reveal silent PE.

Prophylaxis with Low Molecular Weight Heparin (LMWH) is warranted in higher risk patients and all those immobilized for longer than 24 hours, reducing the rate of complications from VTE. A safe period in length of immobilisation has never been described.

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