OUTCOMES AND COSTS OF THROMBOPROPHYLAXIS WITH LOW-MOLECULAR WEIGHT HEPARIN IN ACUTELEY-ILL MEDICAL INPATIENTS

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OBJECTIVE: Prophylactic administration of low-molecular weight heparin (LMWH) has been shown to reduce the occurrence of venous thromboembolism (VTE) among acutely-ill medical patients in the clinical trial setting. The purpose of this study was to examine outcomes and costs of LMWH thromboprophylaxis among medical inpatients in real-world clinical practice.

METHODS: Using a large, geographically-diverse, multi-hospital U.S. database, we identified persons aged 240 years who were hospitalized for ≥6 days with an acute medical condition (including circulatory disorders, respiratory disorders, infectious diseases, or neoplasms) during calendar year 2000. From these patients we identified those who received either thromboprophylaxis with the LMWH enoxaparin or no thromboprophylaxis. Surgical patients, patients with conditions requiring anticoagulant therapy, and those medicinally ineligible for anticoagulation were excluded. We compared the incidence of VTE (defined as deep-vein thrombosis [DVT] or pulmonary embolism [PE]) and death during the hospital stay, as well as length of inpatient stay and total costs, in the two cohorts. RESULTS: We identified 215 patients receiving enoxaparin prophylaxis and 3595 receiving no prophylaxis. The risk of VTE over the course of the hospitalization was 58% lower with enoxaparin prophylaxis than with no prophylaxis (3.3% versus 7.9%; p < 0.001); there was no difference in the risk of death (7.4% versus 7.3%; p = 0.96). Length of stay in hospital and costs of inpatient stay were nominally higher in the group receiving enoxaparin prophylaxis versus no prophylaxis (10.4 days versus 10.1 days; US$10,497 versus US$9,904), although the magnitude of these differences was not significant (p = 0.40 for length of stay; p = 0.29 for costs). CONCLUSIONS: Prophylaxis with LMWH was found to be effective in reducing the risk of thromboembolism in medical inpatients in real-world clinical practice; however, no corresponding reductions in length of hospital stay and inpatient costs were observed.

RESOURCE UTILIZATION DURING THE FOUR MONTHS FOLLOWING A DIAGNOSIS OF DEEP VENOUS THROMBOSIS

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OBJECTIVES: Deep venous thrombosis (DVT) is a common cardiovascular condition occurring in 2 per 1000 persons/year. Despite its frequency, the economic impact of DVT has not been quantified. During a prospective Canadian multicenter study of longterm outcomes after DVT, we quantified DVT-related resource utilization during the four months following diagnosis. METHODS: The study population consisted of 153 patients diagnosed with acute DVT at 1 of 7 participating hospitals. Data on DVT-related hospitalisations, physician visits, diagnostic tests, medical devices, paramedical services and indirect costs were collected for the 4-month period following diagnosis. Data sources included weekly patient-completed diaries, nurse-completed case report forms (baseline, 1, 4 months, and
at any potential DVT-related clinical event [DRCE]), and
archivist-coded hospitalisation summaries. Utilization was
grouped by resource-type and summed. Stratified analyses
were performed by age, gender, DVT site (proximal/distal),
and patient location (in-patient/out-patient). RESULTS: At
diagnosis, mean age was 57 years, 48% were male, 1/3 were
in-patients and 55% had proximal DVT. By 4 months, 17% of
patients had ≥1 new hospitalisation, 24% had been investi-
gated for a DRCE and there were a mean of 0.9 emergency
department visits, 3.4 family physician visits, 5.2 specialist
physician visits and 13.4 episodes of use of paramedical
services. Half of patients had purchased elastic stockings,
and 69% were still taking warfarin. By 1 month, 31% and 17% of
patients reported cutting down on household and work
activities, respectively; at 4 months, these figures were
15% and 7%. There was an average loss of 7.3 work-
days during the 4-month period. CONCLUSIONS: Although
usually considered an acute condition, DVT is associated
with significant utilization of resources and loss of
productivity for at least 4 months after diagnosis. The
longterm economic impact of DVT should be further
quantified and factored into cost-effectiveness studies
of strategies to prevent or treat DVT.

COST-EFFECTIVENESS OF ENOXAPARIN AS
THROMBOPROPHYLAXIS IN ACUTELY ILL
MEDICAL PATIENTS IN BRAZIL

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OBJECTIVE: To generate estimates of the cost-
effectiveness of thromboprophylaxis with enoxaparin
versus no thromboprophylaxis (usual care) in patients
with acute medical illness in the health care setting of
Brazil from the perspective of the public Brazilian health
care system. METHODS: Markov process analysis tech-
niques were used to model the health economic outcomes.
Data on probabilities of clinical events were derived from
clinical trial data from the MEDENOX trial, other pub-
lished literature and OECD (Organisation for Economic
Co-Operation and Development) country-specific popu-
lation mortality data; units of health care utilization were
derived from the Delphi panels; prices and tariffs were
derived from official lists. RESULTS: Analysis over a 1-
year period showed that the cost per VTE event avoided
was REAL 2349 (US$870; €906) and the cost per life
saved was REAL 8296 (US$3073; €3201), when assum-
ing no higher risk for morbidity and mortality for asymptom-
tic patients. The lifetime model (again, assuming
no higher risk for recurrence of VTE for asymptomatic
patients), showed that the use of enoxaparin leads to a
cost per VTE event avoided of REAL 2194 (US$813;
€846) and cost per life year gained of REAL 574
(US$213; €221). The lifetime model, which assumes a
higher risk of VTE recurrence in asymptomatic patients,
leads to a cost of REAL 317 (US$117; €122) per VTE
event avoided and REAL 90 (US$33; €35) per life year

gained. CONCLUSION: The results showed that the
favourable clinical benefit of enoxaparin results in posi-
tive short and long-term health economic benefits.

COST OF MANAGING UNSTABLE ANGINA
PATIENTS OVER A NINE-MONTH PERIOD: A
EUROPEAN APPROACH

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OBJECTIVES: While the cost of managing patients with
myocardial infarction has been extensively studied,
few data are available on the cost of managing unstable
angina (UA) patients. The aim of the study was to assess
the cost of UA patients in six European countries (France,
Belgium, Italy, Spain, Sweden, UK). METHODS: A
cohort simulation model was used. Patients entered the
model when hospitalised for UA. Resources use during
initial hospitalisation (length of stay, invasive procedures)
was extracted from a prospective database. The frequency
and type of following rehospitalisations for cardiovascu-
lar events were derived from a recent clinical trial. The
time horizon was nine months and the perspective was
that of the health care system. The hospital costs used for
each country were based on the local DRG system. Offi-
cial costs of outpatient medications were used. All costs
are expressed for year 2001. RESULTS: The global cost
of managing UA patients over a nine-month period was
divided in three parts: cost of initial hospitalisation, cost
of subsequent hospitalisations and cost of medications.
Total length of stay of initial hospitalisation ranges from
7.2 days in Sweden to 10.8 days in Spain. The number of
days in intensive care unit ranges from 1.6 in UK to 3.8
in Italy. In France, the global cost was estimated at €7471
per patient, breakdown of cost was as follows: initial hos-
ilisation (57%), subsequent hospitalisations (33%),
medications (10%). For other countries, the global cost
per patient was as follows: Belgium €6987, UK £3083,
Italy €6908, Spain €6633, Sweden SEK 57608, with a
consistent breakdown across countries. CONCLUSION:
First hospitalisation is the main cost driver. Nevertheless
the cost of subsequent hospitalisations accounts for about
one third of the total cost highlighting the need for pre-
ventive treatment of subsequent cardiovascular events in
UA patients.