Economy class syndrome: Air travel-related DVT and PE

Bo Eklöf, MD, PhD
Helsingborg, Sweden

Disclosures

• No disclosures

• Wish I had some good relations with the airlines

The first illustration of travel related venous thromboembolism

• Botticelli’s painting of Venus landing on the shores of Cyprus

EMMA CHRISTOFFERSEN
OCTOBER 2000

• 28 year old British lady
• 20 hours flight from Sydney
• Collapsed at Heathrow airport in London due to pulmonary embolism
• Died on the way to the hospital

Air Travel and Venous Thromboembolism

Consultation Arranged by
World Health Organization
Geneva, Switzerland
March 12 - 13, 2001
WHO Meeting Experts

• Patrick Kesteven, Newcastle, UK
• Charles Forbes, Dundee, UK
• William Toff, Leicester, UK
• Frits Rosendaal, Leiden, The Netherlands
• Bo Eklof, Hawaii, USA
• Paul Giangrande, Oxford, UK
• Roderik Kraaijenhagen, Amsterdam, Netherlands
• Harry Buller, Amsterdam, Netherlands
• John Scurr, London, UK
• Emile Ferrari, Nice, France

WHO Meeting Airlines Present

• Air France
• Alitalia
• British Airways
• Cathay Pacific Air
• Emirates Air
• Iberia
• Japan Air
• KLM
• Lufthansa
• Quantas
• South African Air
• Singapore Air
• Swissair
• Vang
• Virgin Atlantic Air

Expert Agreement at WHO

• An association probably exists between air-travel and venous thrombosis
• Such an association is likely to be small, and mainly affects passengers with additional risk factors for venous thromboembolism
• Similar risks may exist for other forms of travel

Airlines Agreed

• There probably exists an association between venous thrombosis and travel in general
• There are insufficient data on which to make recommendations
• The airlines and IATA are committed to support good research studies

Priorities for Research

• Multicenter, international epidemiological studies to answer the questions: is there an association, and if so, what is the absolute risk? What is the size of the problem? PI Frits Rosendaal, Leiden, NL
• Study cabin related risk factors. PI William Toff, Leicester, UK
• Prospectively studying prevention

The WRIGHT project

WHO Research Initiative on Global Hazards of Travel project
WRIGHT Phase I

• The absolute risk
• Coagulation in aviation
• Incidence among Dutch pilots
• Cabin related risk factors
• Large population-based control study
• Published www.wright.project 2007

Summary of WRIGHT Phase I projects

• Air travel is associated with an increased risk of venous thrombosis
• This increased risk applies to other forms of travel where travellers are exposed to prolonged seated immobility
• While the risks and risk groups have now been clearly identified, there is no clarity about effective and safe prevention

WRIGHT projects

• For this reason it is essential that the prevention study proposed for phase II of the WRIGHT project is carried out
• All planned, no funding

Harvey Sugerman, leading bariatric surgeon, USA

• His wife developed thrombosis and almost fatal PE flying from Miami to Los Angeles in 2010
• Contacted through Tom Wakefield, Bill Toff, UK and me to alert the Federal Aviation Administration (FAA) to implement WRIGHT phase II on prevention in 2011

Harvey: Mandate FAA

• For ALL airlines to place a label on the back of every seat which admonishes: PUMP YOUR FEET
• This would save more lives than asking the passengers to buckle up!
• No support from FAA – contacted JAMA

Air Travel–Related Deep Vein Thrombosis and Pulmonary Embolism

ATVT: Conclusions

• Easy to advice passengers with multiple risk factors on adequate preventive interventions;
• Main problem younger passengers, specially women with unknown risk factors, e.g. a positive factor V Leiden, taking oral contraceptives.
• But for all of you great travellers: put on your compression stockings and PUMP YOUR FEET