

Aeromedical decision making challenges in an unusual case of hypercoagulopathy and vasculopathy

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Problem statement: An experienced airline pilot diagnosed with hypercoagulopathy and vasculopathy with no underlying cause except smoking and a strong family history was declared medically unfit due to challenges of monitoring him on warfarin and the aeromedical concerns of the underlying condition.

Background/ Literature review: Hypercoagulopathy along with vasculopathy requiring long term warfarin has not been commonly reported in pilots. Warfarin is approved by most regulatory authorities for pilots with stabilised INR levels provided the underlying condition is adequately controlled. Pilots on anti-platelet agents and direct oral anticoagulants are easier to treat and have lesser side effects compared to those on warfarin – however in this case, anti-platelets or direct oral anticoagulants were not considered adequate.

Case Presentation: This case study is about an experienced airline pilot, who was diagnosed with claudication secondary to stenosis at bifurcation of abdominal aorta. Angioplasty failed and restenosis was treated by aorto-iliac bypass. He was placed on warfarin. INR levels in this pilot were maintained within target range with warfarin but his tendency to hypercoagulate and dependence on warfarin were assessed as posing a significant risk to flight safety (even in a multicrew environment), and certification was refused. Discontinuation of warfarin and switching to antiplatelet medication after 18 months (to attempt to get his medical certification) led to recurrence of symptoms.

Operational/ Clinical relevance: Clinical risks in this pilot include future involvement of coronaries and cerebral vessels and complications thereof. Aeromedical concerns are the dependence on the medication, requirement of dietary control and the condition itself - the risks of which are not sufficiently mitigated. Monitoring compliance with warfarin and maintaining a safe range of anticoagulation are crucial particularly in a commercial airline pilot. Global approaches to such cases are presented, and a protocol for evaluation of such cases is proposed.