

## CASE REPORT

# Retrobulbar haemorrhage associated with chronic *Ginkgo biloba* ingestion

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Retrobulbar haemorrhage is a rare and potentially sight threatening complication after peribulbar local anaesthetic injection for cataract surgery. A case is reported of a woman who developed this complication and was subsequently found to have been taking *Ginkgo biloba* extract tablets which may have predisposed her to developing the haemorrhage.

A 65 year old woman was admitted for routine phacoemulsification and intraocular lens implantation to her left eye. She had no past medical history and denied taking any medications. Her preoperative blood pressure was 135/70 mm Hg and preoperative visual acuity in her left eye was 6/18 unaided. For local anaesthesia, a 25 gauge needle of 25 mm length containing 5 ml 2% lignocaine and 5 ml 0.75% bupivacaine was inserted in the inferotemporal region of her left orbit. Immediately after injection of 5 ml of the local anaesthetic mixture, there was sudden proptosis and bruising of her lower lid which extended medially and superiorly. The patient complained of pain in her left eye and reduction of vision. Her eyelids were tense and her ocular movements restricted. A diagnosis of acute retrobulbar haemorrhage was made and urgent lateral canthotomy and inferior cantholysis was performed to decompress the orbit.

She was re-examined two hours later and no longer had any proptosis or restriction of ocular movement. The visual acuity in her left eye was unchanged at 6/18 unaided, the intraocular pressure in the left eye was 16 mm Hg, and her left optic disc and fundus appeared healthy with no evidence of any vascular occlusion. Further detailed questioning revealed that she had been taking *Ginkgo biloba* extract tablets 40 mg three times a day for the past two years. Haematological investigations

showed a normal blood count, prothrombin and partial thromboplastin times. Serum urea, creatinine, and liver function tests were normal.

## DISCUSSION

*Ginkgo biloba* extract is a standardised extract of the leaves of *Ginkgo biloba* trees. It is widely advertised as a panacea for a wide range of conditions including dementia, peripheral vascular disease, memory impairment, erectile dysfunction, and age related macular degeneration. *Ginkgo biloba* extract exerts its effect through its influence on prostaglandin metabolism, antagonism of platelet aggregating factor, and free radical scavenging.<sup>1</sup> The inhibition of platelet activating factor raises the greatest concern for the perioperative period because platelet function may be altered especially when combined with other anticoagulants like warfarin.<sup>2</sup> There have been cases of spontaneous intracranial bleeding,<sup>3-5</sup> spontaneous hyphaema,<sup>6</sup> and postoperative bleeding<sup>7,8</sup> being attributed to use of *Ginkgo biloba* extract (table 1). The bleeding time was found to be increased in two of those cases.<sup>3,4</sup> However, bleeding time is considered to be a very crude measure of platelet function with limited clinical utility<sup>9</sup> and this was not performed in our patient.

It is estimated that up to 12% of the population in the United States uses herbal medications,<sup>10</sup> but more than 70% of patients in another study failed to disclose their herbal medicine use during routine preoperative assessment.<sup>11</sup> Reasons for this include patient-held beliefs that doctors are not knowledgeable about herbal medications, fear of admitting their use of unconventional therapies, and the fact that they do not consider these substances to be medications. Apart from *Ginkgo biloba* extract, other commonly used herbal medicines that are thought to affect blood clotting include garlic, ginger, and ginseng extracts.<sup>1</sup>

**Table 1** Previous reports of haemorrhage associated with *Ginkgo biloba* ingestion

Reports	Type of haemorrhage	Dose of <i>Ginkgo biloba</i> ingestion and duration of ingestion	Remarks
Vale (1997) <sup>3</sup>	Spontaneous subarachnoid haemorrhage	40 mg four times a day for 6 months	Increased bleeding time was found. This improved after stopping the <i>Ginkgo biloba</i> extract
Rowin <i>et al</i> (1996) <sup>4</sup>	Spontaneous bilateral subdural haematoma	40 mg three times a day. Duration of use not stated	Increased bleeding time was found
Benjamin <i>et al</i> (2001) <sup>5</sup>	Spontaneous intracerebral haematoma	40 mg three times a day for 18 months	Normal cerebral angiography
Rosenblatt <i>et al</i> (1997) <sup>6</sup>	Multiple spontaneous episodes of hyphaema	40 mg twice a day for 1 week	Episodes of hyphaema stopped after <i>Ginkgo biloba</i> extract was discontinued
Fessenden <i>et al</i> (2001) <sup>7</sup>	Postoperative bleeding after laparoscopic cholecystectomy	40 mg twice a day. Duration not stated	100 g/l of haemoglobin was lost in the 1st 48 hours after uncomplicated surgery
Haueser <i>et al</i> (2002) <sup>8</sup>	1. Large subphrenic haematoma after liver transplantation 2. Spontaneous unilateral vitreous haemorrhage 3 weeks after liver transplant	Dose and duration of ingestion not stated	<i>Ginkgo biloba</i> extract was being ingested throughout the postoperative period. No further bleeding occurred after the extract was discontinued

The risk of developing an acute retrobulbar haemorrhage after peribulbar injection in the absence of anticoagulation medication ingestion is estimated to be only 0.074%.<sup>12</sup> We feel that this is an extremely low risk and that in the case of our patient, her chronic ingestion of *Gingko biloba* extract predisposed her to developing the haemorrhage. However, this is only an association and we cannot conclusively prove that the extract caused the haemorrhage.

While we are aware that the connection of *Gingko biloba* extract use with haemorrhage is anecdotal, we feel that it is important that patients should be specifically asked about herbal medication use in any preoperative assessment to highlight any possibility of a bleeding tendency. In the case of our patient, we could have then avoided the use of local anaesthetic injection and performed the operation under topical or general anaesthetic.

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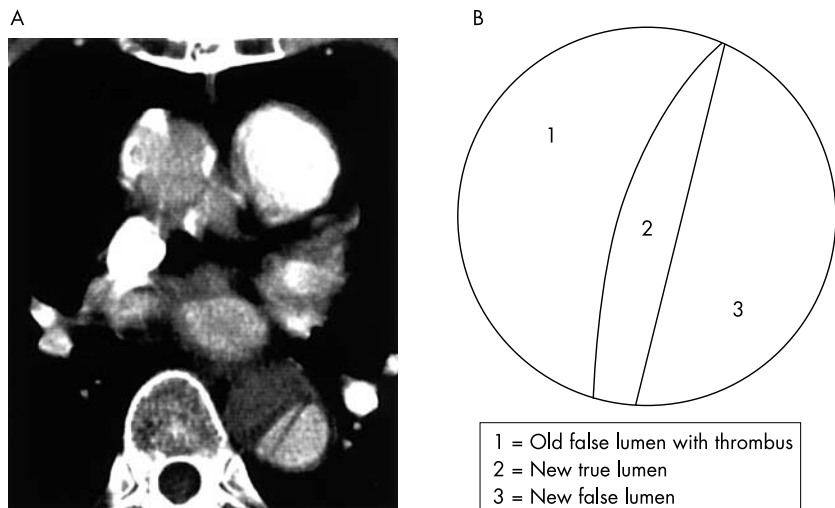
**IMAGES IN MEDICINE**.....

**Three channelled aortic dissection**

**A** 37 year old man with Marfan's syndrome complained of a second episode of sudden chest pain. He had undergone Bentall's operation at another hospital because of a diagnosis of Stanford type A aortic dissection. Enhanced computed tomography showed a three channelled aortic dissection in the thoracic descending aorta, having one occluded lumen and two patent lumens (fig 1A). The former was a thrombosed false lumen deriving from the previous dissection, and the latter was a new dissection from the previous true lumen (fig 1B). This case indicates that thrombus of the false lumen in a patient with chronic aortic dissection does not always mean a stable condition. Two years later he died suddenly of an unknown cause.

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**Figure 1** (A) Enhanced computed tomography showing a three channelled aortic dissection in the thoracic descending aorta and (B) schematic diagram showing old false, new true, and new false lumens.