COX-2 overexpression enhances prostaglandin synthesis, may inhibit apoptosis, increases invasiveness of malignant cells, and can be mutagenic and tumorigenic *in vitro*.[5,6] Tumour-derived COX-2 and prostaglandins may play an important role in antagonising the host immune response and therefore facilitating tumour growth and spread.[4] Of note, *Helicobacter pylori* (*H. pylori*) infection, involved in the pathogenesis of glaucoma,[3,7] increases COX-2 and prostaglandin expressions, which might be one of the mechanisms leading to *H. pylori*-induced carcinogenesis. Moreover, prostaglandins promote angiogenesis, thereby contributing to invasiveness of a variety of tumours.[8] In particular, prostaglandins enhance the proliferation and invasion of malignant cells via activation of major intracellular signal transduction pathways such as PI3K/Akt. Additionally, the synthetic machinery and receptors for prostaglandins, prominently expressed by T lymphocytes in tissues at the boundary of normal tissue with tumour cells, may play a central role in prostanoid-driven tumorigenesis. In view of all the above-mentioned data, ophthalmologists should consider and be aware of prostaglandin-induced infective side effects, and of their long-term, although still speculative and rare, oncogenic properties.

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Sir,

Reply to J Kountouras *et al*

The authors would like to thank Drs Kountouras, Zavos and Chatzopoulos for their letter regarding our paper published in *Eye* (2004) on the treatment of exfoliation glaucoma with latanoprost *vs* timolol. We appreciate their interest in this manuscript, their obvious effort to respond regarding potential side effects of prostaglandins, and their concern for ophthalmic patients.

The authors are correct in stating that glaucoma medicines 'when instilled topically' can be absorbed systemically through the nasal mucosa. Also, we heartily agree that ophthalmologists should be aware of potential systemic and ocular side effects from latanoprost as well as from any glaucoma medication. However, the authors' statements that the upper respiratory infection in our study was attributable to latanoprost specifically and that prostaglandins are apt to cause ocular immune disease and cancer are difficult to support.

In general, the effects of prostaglandins in the body are dependent upon three factors:

(1) the appropriate receptor at the target tissue
(2) the specific class of prostaglandin
(3) the tissue levels of the prostaglandin

Latanoprost is an F_2a prostaglandin analog with a very high specificity to FP receptors. Such receptors have generally higher concentrations in the eye, smooth muscle cells, and corpus luteum. The authors' conclusions about latanoprost, as an F_2a prostaglandin analog, appear generally based on research of other prostaglandin subtypes and are not generally applicable to latanoprost. Making such a direct comparison of other prostaglandin research to specific clinical effects of an F_2a prostaglandin analog is hazardous and potentially misleading.

F_2a prostaglandins are not known to cause immune suppression, angiogenesis, or cancer. Further, these effects have certainly not been shown with latanoprost specifically. Latanoprost is the leading selling glaucoma medication worldwide and has 8 years of treatment experience. Case reports of series of tumours, immune problems, or angiogenesis have not been published. Further, such related side effects were not observed in well-controlled regulatory trials or in postapproval studies.

In addition, the clinical effect of a prostaglandin depends upon the available tissue levels. Two drops of latanoprost completely absorbed and dispersed into the total body water would have a peak plasma concentration of approximately 3×10^{-8} M (14 mg/l). Tissue studies show that it is very difficult to stimulate the FP receptor at this concentration. Further, the half-life of latanoprost in the plasma is probably 15 min. For this reason, latanoprost has not been shown conclusively to cause any systemic side effect.

Again, we agree with the authors in encouraging all ophthalmologists to be aware of side effects of glaucoma medicines. However, caution in the use of a glaucoma medicine must be based on rational knowledge of pharmacology and known side effects balanced with clinical efficacy and need of a medicine in the population to prevent blindness.

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Sir,

Ocular manifestations and MRI findings in a case of methanol poisoning

Methanol, which is usually used as an industrial solvent or automobile antifreeze, is a highly neurotoxic material. Accidental or intentional ingestion of methanol can produce severe metabolic acidosis, permanent neurological deficits, blindness, and death.[1] Toxic optic neuropathy caused by methanol intoxication is rarely reported. Here, we described a patient with methanol poisoning who developed profound vision loss and severe brain damage with characteristic bilateral haemorrhagic necrosis of the putamen shown on magnetic resonance imaging (MRI). The patient survived and significantly improved after intravenous steroids and osmotic diuretics treatment; but with optic atrophy.

Case report

This 49-year-old male was sent to a municipal hospital because of sudden loss of consciousness for 1 day. At the emergency room, he was unresponsive with shallow respiration. He was intubated immediately and put on mechanical ventilation. Blood gas and biochemical analyses revealed severe metabolic acidosis (pH 6.8, HCO_3 7 mEq/l), elevated liver enzymes and ammonia. Brain computed tomography images were unremarkable at that time. Initially, he was treated for metabolic acidosis. Under the impression of methanol intoxication, he underwent emergent haemodialysis. On the fourth day following exposure, blood methanol level was reported to be extremely high (811 mg/dl). The patient was transferred to our hospital for further management.

Information from the patient's family revealed that he had had headache, nausea, vomiting, general weakness, visual disturbance, and shortness of breath 1 day before his admission. All the above symptoms occurred several hours after drinking an unknown amount of home-made herbal wine, which he obtained from a friend.

He was successfully weaned from the respirator at our hospital. However, impaired consciousness, total blindness, and poor movement of his extremities were noted. An electroencephalogram showed diffuse cerebral dysfunction, compatible with the diagnosis of metabolic encephalopathy. The initial fundoscopic examination in both eyes showed moderately swollen, hyperaemic optic disc and dilated, unresponsive pupillary reflex. Visual-evoked potentials revealed marked suppression without identified waveform. Brain MRI performed on day 15 demonstrated multifocal necrosis in the bilateral putamen and frontal and occipital subcortical white matter regions, and marked perifocal vasogenic brain oedema (Figure 1). Intravenous corticosteroids were administered, initially with 300 mg hydrocortisone, and then 100 mg every 6 h. Intravenous osmotic diuretics were also used with 10% 300 ml glycerol every 8 h. Over the following 3–4 days, his consciousness gradually recovered, he became alert, and his motor function