

Intra ocular Tumours

Associate Professor Polkinghorne

Learning objectives

To be aware of the commonest intra- ocular neoplasm (Choroidal metastases)

To be aware of the "suspicious" features of a choroidal naevus

To have a knowledge of the executive summary of the Choroidal melanoma study

The word "tumour" means swelling but often in a medical context is used to designate an abnormal proliferation of cells, that is used as a synonym of neoplasia or cancer. Typically tumours within the eye and ocular adnexa are classified according to behaviour, that is benign or malignant. A benign intra-ocular tumour is usually locally invasive and is slow growing and doesn't spread distally. Conversely a malignant intra-ocular tumour is more likely to be faster growing and tends to spread distally.

Clinically intra-ocular tumours are usually evaluated according to location, eg, uvea vitreous and retina. The main cell type in the uvea is the melanocyte (although there are other cells such as smooth muscle, nerves etc) and a benign proliferation of melanocytes produce naevi whereas a malignant proliferation of cells is referred to as a melanoma. Both naevi and malignant melanoma can occur at all regions of the uvea from iris to ciliary body to choroid. Naevi are very commonly seen on the iris and indeed the choroid. Fortunately melanomas are not common, approximately one choroidal melanoma is diagnosed per month in Auckland. Vitreous seeding with tumour cells are rare, as are retinal tumours. The commonest retinal tumour being retinoblastoma, a tumour almost exclusively found in children.

Intra-ocular tumours may arise from any cell within the eye or adnexa that has the ability to replicate however the most common intra-ocular malignancy are secondaries, that arise from a distal site and have metastasized to the eye. By far the most common site is the breast and this is true for both men and women. Other secondaries may arise from the lung or prostate. Some surveys report the risk of developing a intra-ocular secondary for a patient with a disseminated malignancy approximates 5%.

The differential of pigmented lesions noted in the uvea is often challenging. Iris naevi are usually distinguished from iris melanoma by being flat and small. They don't usually distort the pupil and by definition rarely enlarge. Choroidal naevi are also distinguishable from choroidal melanoma, sharing similar characteristics. Large choroidal melanomas are typically elevated, with lipofuscin present, may be associated with a serous retinal detachment and have typical features on B scan ultra-sound. Conversely choroidal naevi are flat and small, and may have drusen present. Having said that some choroidal naevi can undergo malignant transformation, implying continued observation is appropriate. Overall the risk has been calculated at 1 malignancy per 5,000 naevi or a life time risk 0.8% by 80 yrs. Some naevi have been deemed to be more at risk of malignant transformation and include such features as having a thickness >2mm, associated with sub-retinal fluid, may have symptoms such as flashes and floaters, contain orange pigment, are near to the optic disc and have a diameter > 5.0mm.

Not all pigmented lesions noted in the ocular fundi are naevi or melanoma, so the differential should include congenital hypertrophy of the retinal pigment epithelium (CHRPE), retinitis pigmentosa, laser photocoagulation, chorio-retinal lesions associated with trauma or previous intra-ocular inflammation.

Suggested reading

- Eye Cancer network. Good pictures of everything.
- Augsburger JJ et al Clinical parameters predictive of enlargement of melanocytic choroidal lesions. Brit J Ophthalmol 1989;73. 911-917

- COMS report No 1 Arch Ophthalmol 1990;108. 1268-1273
- www.nci.cu.edu.eg/lectures/ocular%20tumors.pdf

NB incorrect spelling!!