The Anatomy of the Horseshoe Tear

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Firstly, I should like to show you a preparation of the retina and eye of a patient with a horseshoe tear of the retina followed by a recent detachment of the retina. Unfortunately, the patient died shortly after a scleral resection.

On the one side of the eye we see a strong cord or band from the vitreous humour attached to the normal retina; this has had no untoward consequences. However, on the other side, a similar, although weaker cord has torn a flap from the retina, which has led to the retinal detachment. The retina shows severe regressive alterations, identical to those seen in another patient in whom the retina was also torn, although this tear did not lead to a detachment of the retina. This latter patient was kept under clinical observation by my colleague Van den Bos and later died from pneumonia.

In this case, there is only adhesion of the vitreous humour which appears to be rooted in the degenerated retina. This is reminiscent of the retinal preparations of Walter, who demonstrated fibres from the vitreous humour that also appeared to be rooted in the retina. Subsequent and closer examination proved that this ‘vitreiform degeneration’ was also present in the first patient. Therefore, it seems likely that the retina reacts to the vascular sclerosis which is associated with retinal detachment, with a vitreiform degeneration, a vitreous humour-like swelling of the retinal supportive tissue which subsequently may undergo liquefaction, just as the vitreous humour does itself. Consequently, because of this, even slight traction may readily cause a tear, as happened in the case of our second patient.