this study, we solely view the degree of detachment as distance from the RRD border to the fovea. Retinal drawings were obtained from fovea-on RRD patients participating in a prospective study (ClinicalTrials.gov Identifier: NCT03655652) at the Department of Ophthalmology, at Rigshospitalet – Glostrup, Denmark. The retinal drawings were either drawn digitally or on paper by ophthalmology residents. The shortest distance from the retinal detachment border on a drawing to the fovea was measured with Fiji imagej software (v. 1.52 g) (https://fiji.sc). For each retinal drawing, we measured the corresponding distance on OCT images (Heidelberg Spectralis, Heidelberg Engineering, Heidelberg, Germany) taken immediately after examination and retinal drawing. The shortest distance on OCT between fovea and the RRD border was measured with built-in software (HEIDELBERG EYE EXPLORER, v. 1.9.10.0, Heidelberg Engineering, Heidelberg, Germany) – digitally and two drawn on paper. Two patients were excluded for exceeding the 10 mm RRD border distance to the fovea.

From 59 patients, 45 retinal drawings were available – 43 drawn digitally and two drawn on paper. Two patients were excluded for exceeding the 10 mm RRD border distance to the fovea.

Figure 1 A depicts the correlation between the retinal drawings and the objective OCT distance taken immediately after examination. Retinal drawings deviated significantly from the ideal no difference between drawing and objectively measured RRD border distance from the fovea (p < 0.0001). A split-fovea patient would on average be drawn 2.05 mm from the fovea if OCT was available. Although OCT seemed to aid in more accurate retinal drawings, it did not represent a significant improvement over no OCT visualization of the RRD (p = 0.175).

Thus, with retinal drawings it is worth noting that RRDs close to the fovea are at risk of being labelled as far away and vice versa. We suspect that the bulbous components of the RRD draw attention while flatter components are easier to miss. We suggest that the OCT be used more actively in RRD diagnosis to accurately communicate the RRD status to the patient and other healthcare personnel as well as aid ophthalmology residents in accurately interpreting ophthalmoscopic findings.

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Could optical coherence tomography add to the history of the pituitary incidentaloma?

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Editor,

While first described in the medical history as an incidental finding on autopsies or now abandoned diagnostic techniques like roentgenographic cephalometry, the pituitary incidentaloma as a clinical entity unfolded with the introduction of contemporary medical imaging like computed tomography (CT) and magnetic resonance imaging (MRI) (Nanda et al. 1967; Parent et al. 1982; Molitch & Russell 1990). Many pituitary tumours remain small and clinically silent. Nevertheless, the diagnosis of a pituitary incidentaloma necessitates evaluation for endocrine dysfunction or mass effect requiring treatment; the risk of serendipitous findings without any medical benefit to the patient remains an important dilemma of modern imaging procedures.

In ophthalmology, optical coherence tomography (OCT) is considered one of the most successful imaging technologies implemented in modern clinical practice (de Boer et al. 2017). Since its introduction in 1991, OCT has become readily available and is routinely used in the diagnosis and follow-up of a multitude of ophthalmic disorders. OCT utilizes scattered light to create high-resolution images of the eye’s anterior and posterior segment. Unlike CT or MRI, an OCT image can be provided in seconds without use of

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potentially harmful radiation, magnetic fields or contrast agents. Much like CT and MRI, however, OCT imaging may add to the history of the pituitary incidentaloma.

Each of the approximately one million axons in the optic nerve originates from a single retinal ganglion cell (Jonas et al. 1992). A tumour in the pituitary gland can displace these axons at the level of the optic chiasm and cause retrograde degeneration of the ganglion cells. Such degeneration presents on macular OCT as thinning of the inner retinal layers. Moreover, due to retinotopy, the thinning typically occurs in a characteristic binasal arrangement, mirroring the textbook example of a bitemporal visual field defect. In this manner, modern OCT technology and image-processing techniques are able to present a retinal ‘fingerprint’ of a pituitary macroadenoma reaching the optic chiasm. In principle, the order of these imaging studies could be the other way around; an initial OCT evaluation also possesses the ability to incidentally discover an asymptomatic pituitary adenoma manifesting itself on a retinal image. The vast number of routine OCT examinations performed on increasingly sophisticated devices may therefore predict a new clinical entity: the OCT pituitary incidentaloma.

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