Subretinal fibrosis detection by PS-OCT

Figure legends supplementary material:

Figure 5: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the right eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 6: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c). The majority of the lesion is composed of pigment [as can be observed in (a)], which does not exhibit birefringence in the axis orientation B-scan (c).
Figure 7: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the right eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a "column-like" pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 8: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a "column-like" pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 9: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the right eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a "column-like" pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).
Figure 10: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the right eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 11: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 12: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).
Figure 13: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the right eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 14: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c). Of note, a retinal pigment epithelial rip has occurred in this patient, which is why parts of the fibrosis are located below the RPE nasally, while temporally, fibrous tissue is observed subretinally. Please also note the column-pattern in the left half of the axis orientation B-scan (c) below the choroid, originating from the sclera, which is also birefringent.

Figure 15: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location
of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 16: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 17: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c).

Figure 18: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the right eye of a patient with subretinal fibrosis. The
location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c). A major part of the lesion is composed of pigment [as can be observed in (a)], which does not exhibit birefringence in the axis orientation B-scan (c).

Figure 19: Color fundus photography (a), PS-OCT intensity B-scan (b) and PS-OCT axis orientation B-scan of the left eye of a patient with subretinal fibrosis. The location of the PS-OCT B-scans is indicated by a dashed white line in (a). Fibrosis, identified by a “column-like” pattern in the axis orientation image (c) is indicated by dashed white lines in (b) and (c). Only the green channel of the color fundus photograph can be shown due to technical issues, however, the fibrosis can easily be identified.
Figure 20: PS-OCT intensity B-scans (a, c) and PS-OCT axis orientation B-scans (b, d) of the left eye of a patient with sub-retinal pigment epithelial (sub-RPE) fibrosis (a, b) and the left (fellow) eye of a study participant with active treatment-naïve sub-RPE type 1 choroidal neovascularization (CNV) without fibrous scarring (c, d). Both eyes show similar sub-RPE hyperreflective tissue in intensity B-scans (a, b), but different patterns in axis orientation B-scans (b, d). While an obvious column pattern can be observed in (b) indicating fibrosis, no such pattern can be observed in the active CNV lesion (d). Please note the gradual change of colors below the level of the outer nuclear layer in the axis orientation B-scan (d), caused by the fiber layer of Henle, which is also birefringent.
Figure 21: PS-OCT intensity B-scans (a, c) and PS-OCT axis orientation B-scans (c, d) of the right eye of a patient with subretinal fibrosis (a, b) and the right (fellow) eye of a study participant with active choroidal neovascularization (CNV) and subretinal hemorrhage without fibrous scarring (c, d). Both eyes show similar subretinal hyperreflective tissue in intensity B-scans (a, b), but different patterns in axis orientation B-scans (b, d). While an obvious column pattern can be observed in (b) indicating fibrosis, no such pattern can be observed in the active CNV lesion (d). Please note the column-pattern temporal to the optic disc below the choroid in (d), which is caused by the scleral spur, a birefringent structure. The changes in color of the retina nasal to the disc in (d) are caused by the birefringent retinal nerve fiber layer.