

Case Study: Astrocytoma

Oulu, Finland

Mother brought two years old child to paediatric office due to the forehead headache that had lasted for three weeks. In last few days she had vomited too in the morning but had some abdominal complaints at the same time.

Physical and neurological study showed no clinical abnormalities, for example cardio-respiratory status was normal and no signs of infection were found from upper respiratory tract or abdomen. Pupils were symmetric and normally responding to the light, visus was not altered, eye movements were normal. Babinski sign was negative and the other reflexes were symmetric and normal too. Diadochokinesis was found to be normal related to the age and no signs of motor or balance disturbances were found. The vascularity of the base of the eye appeared to be normal and no haemorrhages were seen there. But as usual, a 2-year-old kid was not able to fixate the vision long enough to be able to visualize the papillae.

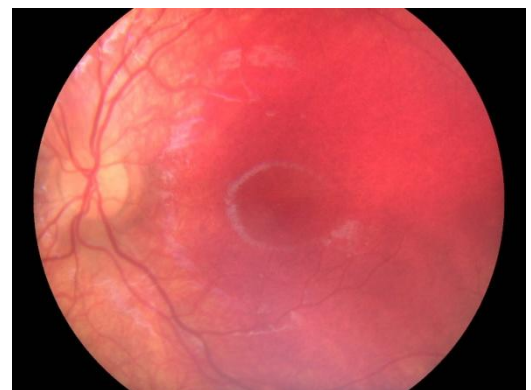
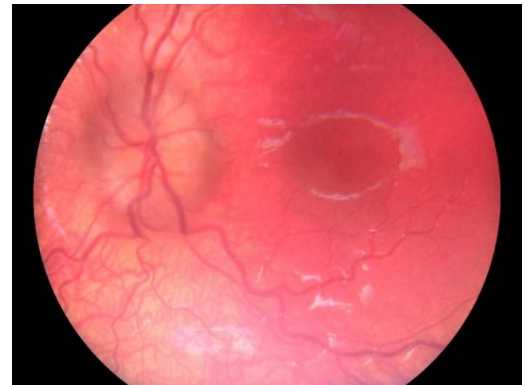
The doctor advised the mother to give some pain relief and closely follow the course of the headache as it was the worst on the mornings and vomiting had just began, elevated brain pressure was not ruled out.

At first, pain medication tended to provide satisfactory relief: headache disappeared. Two days after the visit to the paediatricians' office, the mother got access to Smartscope and was able to get good photographs of both papillae. They were clearly showing papilloedema in both eyes indicating elevated brain pressure (Picture 1).

The brain MRI made at same day showed brain oedema and tumour at the cerebellum blocking the spinal fluid spaces. Tumour was operated successfully at a day five after the first visit to a doctor. The tumour showed to be astrocytoma. At the moment the child is free of disease and the follow-up visit continues. Smartscope images taken 11 days after the operation showed no papilloedema any longer (Picture 2).

In this case, with the help of Smartscope the evidence of increased brain pressure was got very quickly. A common delay from first symptoms to diagnosis with children's brain tumours varies from five weeks up to 2 years. In this case first symptoms came approximately three weeks earlier and morning vomiting which is a symptom suggesting elevated brain pressure had lasted only few days.

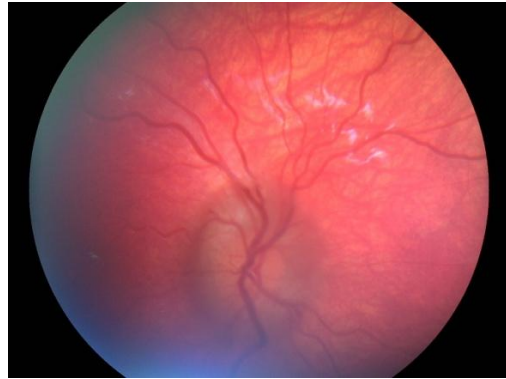
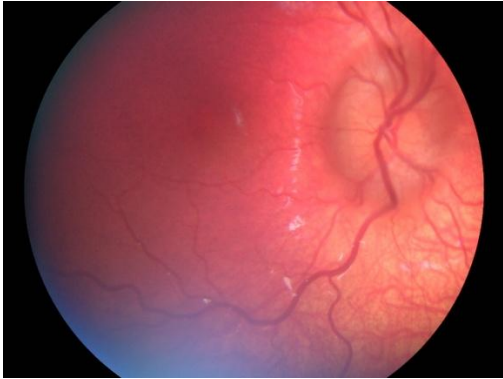
It is a very common problem with young children that they are not able to fixate their vision long enough to visualize the base of the eye and the physician is not able to see the papilla's during a normal office visit. So, in this case, the Smartscope outscored an experienced paediatrician in visualization of the base of the eye and enabled an early diagnosis of a very serious disease.



Smartscope PRO

Hand-held non-mydriatic fundus camera

Fundus images taken before the operation



Fundus images taken 11 days after the operation

