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Case Report

Cases of Subconjunctival Hemorrhage after a Joy Ride

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Subconjunctival hemorrhage is a benign condition that mostly resolves spontaneously on its own, even though it may be very alarming for the patients. Multiple causes of subconjunctival hemorrhage-including local trauma, acute conjunctivitis and systemic hypertension have been reported in literature^{1,2}.

CASES

We report here a series of four cases of subconjunctival hemorrhage that occurred following a gyroscopic ride. During Easter break, a group of 4 college students, two boys and two girls, between the ages of 17-19 years, presented to the outpatient department of Barnsley District General Hospital with red eyes. Couple of hours before presenting at the eye clinic, they reported going on a gyroscopic ride outside a local pub. After the ride, they noticed red patches in white of their eyes (Table 1 and Fig. 1).

They did not have any history of co-morbid, such as hypertension, diabetes, blood dyscrasias or clotting abnormalities. They were also not using any blood thinning medications, like Aspirin or Warfarin. General examination showed that vitals including blood pressures were within normal ranges.

Their visual acuity was normal. All four, but one patient had bilateral sub-conjunctival hemorrhages on the lateral or medial or both sides of the limbus (Fig. 1). IOP was normal and there was no reaction in the AC. Their pupils were reacting normally and detailed retinal examination did not reveal any pathology of the posterior chamber such as retinal edema, hemorrhage or tear. Laboratory investigations revealed normal bleeding and clotting profiles.

Patients were not given any medication, reassured and sent home. Three of them returned for examination two weeks later. All hemorrhages had completely resolved.

Eye hemorrhages and retinal tears caused by amusement rides and high intensity sports such as bungee jumping and roller coaster rides have been reported previously. During 1987-2000 one person in the United States had retinal tear and a possible cerebral edema and five others had eye hemorrhage after they rode a hand-powered ride called the "Spaceball" which spins its occupants at a high speed. In addition, a boy aged 17 had vitreous hemorrhage after a gyroscopic ride^{3, 4}. Our case series is unique in that all four members of the group developed subconjunctival hemorrhage following a gyroscopic ride. To the best of our knowledge this is the first reported case

series of subconjunctival hemorrhages associated with this type of ride. There is a possibility that many such cases of subconjunctival hemorrhage are not reported because they are not sight threatening.

Table 1. Characteristics of the four cases with subconjunctival hemorrhage

Patient identification	Age	Sex	Location of the subconjunctival hemorrhage
1	17	M	Bilateral; medial and lateral aspects of sclera
2	17	M	Bilateral; lateral aspects of sclera
3	18	F	Unilateral; medial aspect of sclera
4	19	F	Bilateral

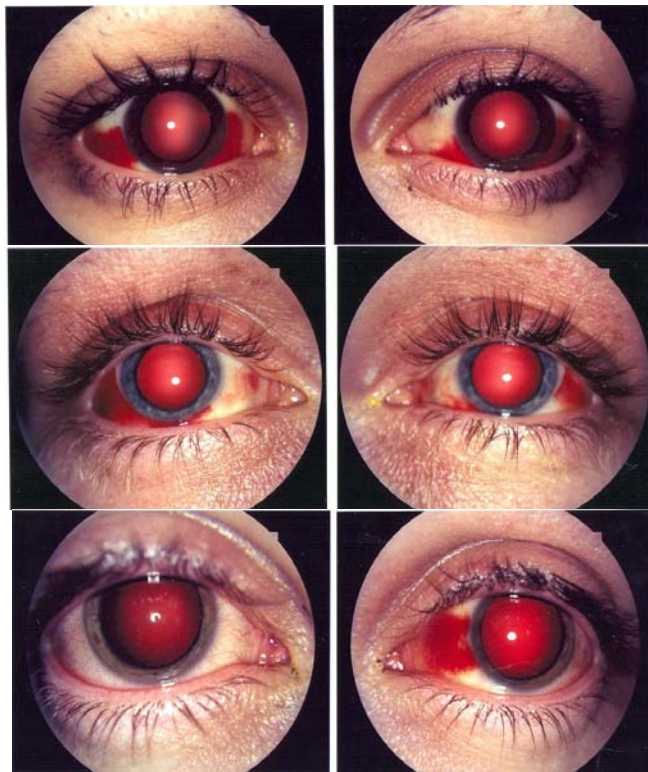


Fig. 1: Location of subconjunctival hemorrhages in three of four cases

A gyroscope is a device consisting of a rotating heavy metal wheel pivoted inside a circular frame (Fig 2). The wheel's rotation enables it to retain its original orientation in space when the frame turns. The ride works on exactly the same principle and the high

speed rotation of the passenger in multiple directions can cause rupture of the thin conjunctival vessels.

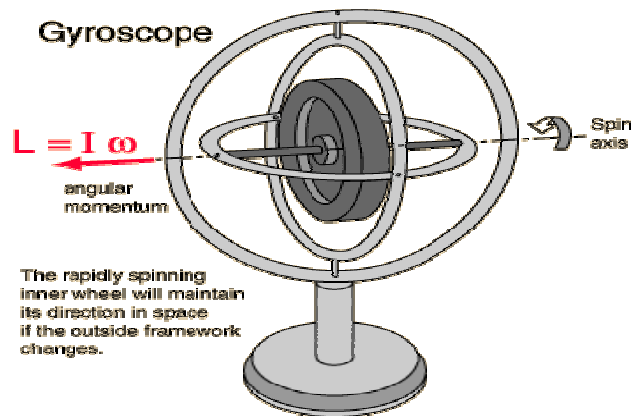


Fig. 2: A gyroscope: its structure and function

CONCLUSION

Although extreme sports are very attractive, mostly for the younger generation, they can result in eye trauma ranging from benign hemorrhage to a sight-threatening retinal damage. One should observe caution while thinking of indulging in such sports and seek medical advice immediately if there is any associated eye trauma.

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mandatory for him to write his publications in Danish. An antipathy against German, in those days the language of science, may have been gained in a childhood so filled with tension regarding nationalism. The scientific achievement that made the name Bjerrum universally known was conceived during his work on the relationship between visual acuity and the perception of the bright stimuli in various retinal zones. In accordance with his own modest attitude, this discovery was published in 1889 in a small paper which in translation was called 'An addendum to the usual examination of the visual field of glaucoma'. At that time Bjerrum was studying the visual field by means of small white objects. The idea of this investigation was to record the performance of every single functional unit of the retina. As a minimum such units in Bjerrum's opinion would subtend a visual angle of one minute of arc (in the macular region). However, even a small test object would subtend a visual angle exceeding two degrees and accordingly cover a multitude of functional units. In order to obtain a better functional portrayal of the retina, Bjerrum conceived the idea of enlarging the observation distance. Initially, a standard preemptory was carried out by the aid of a perimeter arc with a radius of 30 cm and a 10 mm test object. A screen was placed next to the perimeter arc. The subsequent step was to move the chinrest table backwards to an observation distance of two meters and plot the visual field on the screen without the use of the perimeter arc. In this case an objection of 2 mm was employed. This last procedure was the first introduction of campimetry, which eventually gained worldwide use. By campimetry Bjerrum demonstrated the very small glaucomatous scotomas later called the scotoma of Bjerrum in recognition of its discovered. During his tenure as professor beginning in 1896 Bjerrum directed the still private clinic on Harbour Street. Although he

possessed limited ability as a teacher, he impressed his students with his clinical honesty and the integrity of his scientific work. In his personal dealings and in his clinical and scientific work he displayed an impressive logic and intelligence, but never lost his modesty. His never failing responsibility formed a fashion for the coming generation of Danish ophthalmologists. In 1910 when aged 59 years Bjerrum retired but continued to reside in Copenhagen. As previously mentioned, his origin from Schleswig remained important to him all of his life and resulted in a substantial national feeling that made him feel it a duty and honour to publish his scientific works in Danish to avoid confusion with alien research. The scientific community fully realized that this was a Danish paper. His national attitude also led to one of his final decisions. The termination of the first World War and the collapse of the German Empire brought to the fore the matter of the occupied southern border districts in the post-war peace conference. In 1920, referendum was initiated to give the inhabitants of Schleswig the opportunity to choose their future homeland. The electorate was those born in the district. Already a sick and old man, Bjerrum went from Copenhagen to his native village to give his vote, and in this way he contributed to the homecoming of Schleswig to the Danish kingdom. Jannik Petersen Bjerrum died the same year.

Bjerrum scotoma = a visual field defect characteristic of glaucoma. It is a nerve fiber bundle defect extending from the blind spot, sweeping around the macular region and ending in a straight line on the nasal side corresponding to the temporal raphe in the retina.

Reference: History of Ophthalmology by Kluwer Academic Publishers.