

EYE INJURY FROM AN EXPLODING GOLF-BALL: A CASE REPORT IN SINGAPORE

By K. H. Lim

SYNOPSIS

A golf-related injury caused by the sudden opening of the pressurised liquid centre of a golf-ball is described. Entirely preventable and due to human inquisitiveness, such injuries can still occur as long as liquid centred golf-balls are available and their dangers go unrecognised.

INTRODUCTION

No sport is without its hazard—even for those who do not play the game and are thus spared the physical and psychological horrors associated with that sport, human inquisitiveness can still produce a golf-related injury. Eye injuries caused by the explosive release of the liquid centres of golf-balls have been described as early as 1912: thus, Duke-Elder (1954) in his biblical "Textbook" quoted reports by Nance, Carpenter and Baer, Langdon, Wood and others and commented ". . . . Fortunately this hazard has been removed from golf" envisaging, no doubt, that manufacturers had recognised the dangerous chemicals contained within golf-balls. This description has been removed from "The Duke's" recent edition of his monumental "System" but eye and face injuries caused by exploding golf-balls began to re-appear in the recent literature, presumably due to popularity of the game in those countries which can afford the sport.

Thus, in the U.S.A. Penner (1965) re-emphasized the potential ocular hazard of liquid centred golf-balls by describing 2 cases; at the same time, Johnson and Zimmerman (1965) reported on barium sulphate and zinc sulphide deposits from golf-ball related injuries to the conjunctiva and eyelids; Slusher, Jaegers and Annesley reported 4 more cases in 1967 and Nelson described 2 cases in the U.K. in 1970. In the local scene, Leong and Lim described a case in Malacca in 1970 occurring to a golfer's wife and Lim has a further unpublished case

in Singapore in a golfer's son (1973). We report another case in Singapore in a caddie's son just so to stress a rare but potential danger, suggesting that such an accident, entirely preventable, can still occur as long as liquid centred golf-balls are available and human inquisitiveness abounds.

CASE REPORT (V 0490090)

A school boy, K. M., aged 9, who is a caddie's son, overwhelmed with curiosity decided to cut into the core of a Dunlop 65 golf-ball when "the ball burst" (Fig. 1). He did not know

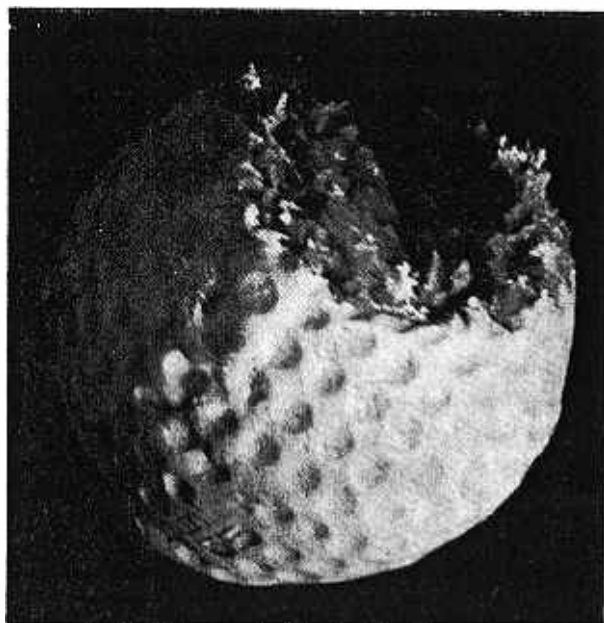


Fig. 1. Golf-ball cut open which "burst".

whether the ball or its contents hit his right eye and he was brought into hospital by his father. Examination showed a contusion injury of his right eye with a corneal abrasion and Descemet's membrane folding and vision was reduced to counting fingers; however, there was no impaction of foreign bodies. The injured eye was irrigated with saline and kept

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padded with tetracycline eye ointment until the abrasion healed; the keratopathy (Fig. 2)

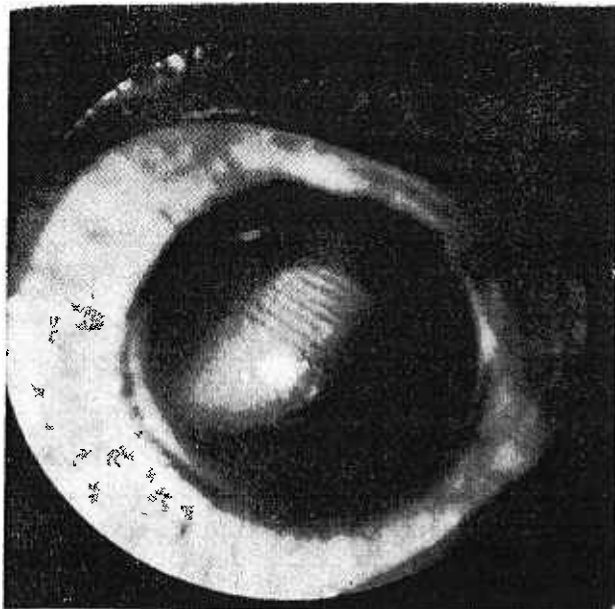


Fig. 2. Traumatic Keratopathy.

persisted for a week but he recovered 6/6 vision.

DISCUSSION

The Table shows an analysis of golf-ball injuries from the recent literature. Of 12 cases, including the present report, 11 were caused by cutting with a knife or file, whilst 1 case was caused by "examination of a golf-ball that had been chewed by a dog" (Nelson, 1970).

The liquid centre golf-ball, pressurised up to 2,000—2,500 pounds per square inch (Penner, 1965 quoting Szulik), is liable to explode when the outer coats are weakened and drive

substances through the skin and conjunctiva without leaving a detectable surface mark or producing any discomfort unless the sensitive cornea is injured and, "since the individual presumably watched when cutting the ball", (Penner, 1965) the face and eye are likely sites of injury. The substances in the liquid centre vary and can include barium salts, zinc sulphide, gelatin, silicone, sulphuric acid, sodium hydroxide, lead, ethylene glycol and water; the exact composition varies with the make of the ball and is often a trade secret (Penner, 1965).

In a severe injury, such as described by O'Grady and Shoch (1973) the substances can cause foreign body granuloma in the eye which may resemble severe inflammation or neoplastic disease if the essential history of trauma is unavailable. However, in the majority of reports, the amount of foreign body discharged was related to only a low-grade inflammatory response and, generally, ocular injuries were relatively minor, although recurrent corneal abrasion, traumatic iritis and hyphaema were described by Slusher, Jaegers and Annesley (1967). Our patient showed a corneal abrasion and keratopathy which reduced vision temporarily but recovered spontaneously.

This report forms part of a series on the Prevention of Ocular Trauma in Singapore.

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TABLE

ANALYSIS OF GOLF-BALL INJURIES FROM RECENT LITERATURE

Source and Year	No. of Cases	Cause of Explosion
Penner, 1965	2	"Cutting"
Slusher, Jaegers, and Annesley, 1967	4	"Knife" (3 cases) unspecified (1 case)
Nelson, 1970	2	"Chewed by dog" (1 case) "Partial dissection" (1 case)
Leong and Lim, 1970	1	"Cutting"
Lim, 1973 (Unpublished)	1	"Cutting"
O'Grady and Shoch, 1973	1	"Cutting"
Lim, 1974 (Present report)	1	"Cutting"
TOTAL	12 Cases	

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