The financial support of the Medical Research Council is greatly appreciated and gratefully acknowledged. Messrs R. J. Rossouw and H. A. Wessels of this department assisted in the experimental work and the preparation of the serial sections. The eggs were obtained from the Glen Agricultural Research Station through the much-valued co-operation of Mr J. A. de Beer.

REFERENCES


Pellet Gun Injuries*

THEODORE JAMES, Pinelands, Cape

SUMMARY

This is a brief statistical representation of the evil of preventable pellet gun injuries compiled from information furnished to the author by individuals, as well as groups, in the medical profession in South Africa. It was hoped that an argumentum based on this freely-given and willingly-corroborated evidence, and submitted by the Cape Western Branch of the Medical Association of South Africa to our Parliamentary Liaison Committee, would prove instrumental in bringing about effective legislation for much greater restriction on the handling, if not the complete banning, of pellet guns; but unfortunately, despite the profession's unanimous support for this project, the state of affairs is very much as it has always been, in other words: in statu quo.


C. F. Krige records how he 'made history': 'My cousin Christo Beyers, about six years my senior, and later an eminent surgeon in Johannesburg, invited me to shoot birds with him on a nearby hill. It was a successful hunt. I was carrying several brace of small birds when, as a reward, he promised to let me shoot at a target. While he went to put up a large fir-cone, I held the loaded airgun and must have touched a very finely-set trigger, for the shot went off. The next moment he cried, "You've shot me!" and started to run down the hill to a small stream where he bathed his hand. The pellet had entered his left hand between the heads of the third and fourth metacarpals. This is where history came in—it was my impression that Christo did not have to go to Cape Town for an X-ray photo, but a professor on the staff of the Victoria College was able to rig up an apparatus to do so. The date was definitely before 1900, when X-rays were very much in infancy and hardly two years in use in medical practice. The pellet was removed in London after the First World War about nineteen years later.'

From this account of Krige's it can be surmised that pellet gun injuries have been a growing menace in South Africa for more than 70 years. It was not until 1969 that an article revealing the extraordinary number of eye injuries caused by pellet guns, and correspondence drawing attention to pellet gun injuries in general, respectively, appeared in our Journal. These straws in the wind appeared to arouse no reaction among readers, and were allowed to be blown away. But the matter was later raised in the Council Chamber of the Cape Western Branch of the Association, who unanimously adopted a resolution to have the seriousness and frequency of pellet gun injuries brought to the notice of the highest authority in the land by way of the usual channels, that is, with the recommendation and backing of Federal Council.

MEMORANDUM

The memorandum forwarded to Federal Council could be summarized as follows:

As long ago as 1895 the first report of pellet gun injuries appeared in our South African Medical Journal, from the pen of Dr Ben Blaine of Grey's Hospital in King William's Town. This was an account of 2 cases which he had seen, in one of whom the pellet had passed through the upper lip and wounded the gums, and in the other case the pellet had entered the subcutaneous tissue just to the left of her sternum and overlying the praecordium, it was thought right to report this fact to the police. The police, however, confessed to a helplessness 'unless a charge be laid'; in other words, it is permissible to play with a dangerous instrument, but only if a charge is laid will any official action be taken.

It is a curious fact about pellet gun injuries that it is hardly ever an adult that gets shot, but nearly always a child. Another curious fact is the odd manner in which the parents of the culprit usually react when the 'injured' parents of the wounded child protest; they react in a manner similar to players in comic opera; perhaps histrionic overacting of their indifference to the misdeed—or exaggerated theatrical disparagement of the injured one's concern—or just plain feigned amusement; and the culprit gets away with it every time. In fact, he think a lot of himself for his marksmanship and his ability to raise such a rumpus.

Any casualty department of any big provincial hospital can provide some astonishing figures for serious pellet gun injuries which could be prevented by the right action being taken by our governing body.

This memorandum was well received by Federal Council, and through the Parliamentary Liaison Committee contact was made with the Secretary of Justice, who showed his sympathy by making a request that he be provided with statistical facts on which to base any action which appeared advisable or advised. To comply with his advice an Addendum was compiled, which was based upon the responses received from Branches of the Medical Association all over the country. They were asked for numerical support for the Memorandum originally composed to bring about some legislated control of pellet-guns. Heads of departments dealing with injuries suffered by children from pellet guns, as well as individuals, were asked to report as soon as possible the number of cases of this kind which had come to their notice, say, over the previous 5 or even 10 years. Members of the profession were asked to regard this as a matter of urgency on behalf of our children's welfare. The country-wide response proved to be in the very best tradition of our profession.

It came from a member of a group of ophthalmologists and ran as follows: 'It is noteworthy that pellet injuries to the eye are devastating. I have not yet seen an eye struck by a pellet, which has recovered any useful vision or has not needed to be enucleated in the end. There was unanimity among members that the manipulation of pellet guns by anybody living in urban areas is most undesirable. I should like to point out that the two eyes, or rather, the two orbits, make out an extremely small percentage of the bodily surface. If this is the number (104) of injuries seen by 14 members of the medical profession, on such a small surface area, then mishaps involving pellet guns in other regions of the body, must be tremendously common.'

TABLE I. SPECIFIED ANATOMICAL SITE OF 222 OF 284 PELLET GUN INJURIES REPORTED.

<table>
<thead>
<tr>
<th>Anatomical Site</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdomen</td>
<td>7</td>
</tr>
<tr>
<td>Arm</td>
<td>4</td>
</tr>
<tr>
<td>Back</td>
<td>1</td>
</tr>
<tr>
<td>Brain</td>
<td>2</td>
</tr>
<tr>
<td>Calf</td>
<td>9</td>
</tr>
<tr>
<td>Ear</td>
<td>2</td>
</tr>
<tr>
<td>Eye</td>
<td>118</td>
</tr>
<tr>
<td>Face</td>
<td>22</td>
</tr>
<tr>
<td>Foot</td>
<td>2</td>
</tr>
<tr>
<td>Forearm</td>
<td>6</td>
</tr>
<tr>
<td>Hand</td>
<td>15</td>
</tr>
<tr>
<td>Neck</td>
<td>3</td>
</tr>
<tr>
<td>Shoulder</td>
<td>1</td>
</tr>
<tr>
<td>Skull</td>
<td>1</td>
</tr>
<tr>
<td>Thigh</td>
<td>17</td>
</tr>
<tr>
<td>Thorax</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>222</strong></td>
</tr>
</tbody>
</table>

Of the 284 pellet gun injuries submitted by our contributors, there were 222 injuries specified by the anatomical site involved, and of these, some as mild as a pellet in...
the calf and others as grave as brain injury, there were 118 children who suffered eye injuries, and in almost all of them, loss of vision in that eye, if not loss of the eye itself.

Statistics are a bore, usually, and 118 eye injuries may be only a statistical figure with statistical significance, not needing confidence limits to support it in a compilation of this kind; but it would be no less important if the number be even only one, and this the loss of a child’s eye, with all the accompanying heartache.

It is worth remarking upon that it is not uncommon for the irresponsible child with his natural bent for cruelty, to fire pellets at his playfellows in childish abandon.

With the Memorandum and the requisite Addendum it was hoped and believed that enough evidence would be available for earnest consideration which would persuade our legislators not to lag behind other countries, which have wisely taken efficient, and therefore effective, action to mitigate a preventable evil.

If for a moment we revert to Table I it would be a fair assumption that, with the anatomical spread of injuries listed there, there were about 151 eye injuries among the total number of 284, or about 54%.

More recently, an article appeared in the British Medical Journal which offers some figures appertaining to eye injuries for comparison. The admission to hospital of 5 children within one week for serious airgun pellet injuries of the eyes, prompted a search for this type of eye injury in the records of St Paul’s Eye Hospital in Liverpool for the years 1953 - 1972, or for 20 years; the cases totalled 105. The average age of the patient was 14 years and the ratio of males to females was 7:5:1. Forty-five patients had a final visual acuity of 6/18 or less in the injured; 19 had the eye removed for retinal damage, and cataract. One patient was rendered completely blind by the complication of sympathetic ophthalmitis arising 11 years after the injury. Pellets were left in the orbits in 9 of 14 cases, only 5 being removable at operation.

In their discussion of intra-orbital pellets these authors made particular mention of lead in blood and urine, and of Machle’s statement that under certain circumstances lead is acted on by the tissues and made available for absorption, and X-ray films may show evidence of local dissemination. Machle concluded that lead poisoning from pellets left in tissues, although rare, can occur, and that the possibility of delayed intoxication should have some weight in the decision on the removal of pellets. The remote possibility, therefore, of lead poisoning occurring years after the injury should not be forgotten.

CONCLUSION

Despite the evidence afforded the authorities concerned with any proposed legislation suited to the control or utter banning of air- or pellet guns for children still at an irresponsible age, the matter remains in nubibus, which may be translated as ‘in the clouds’, or not yet settled, or even, incapable of being carried out. It may also be said to be in statu quo, or status quo ante, or prius, et nunc which may be rendered as it was in the beginning, is now, and I dare say, ever shall be.

REFERENCES