

brain,¹⁰ which supports the possibility that cryoglobulins could have caused a central retinal artery or posterior ciliary artery vasculitis.

This case highlights the importance of close collaboration between physicians and ophthalmologists in the management of patients with eye complications as a result of systemic disease.

We would like to acknowledge the help of Prof. A. Bird in preparing this case.

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Sir,
Superglue Lids: Possibly Non-accidental and a Medico-legal Problem

We report a case of a child who had possible *non-accidental* instillation of Superglue in both eyes. The

glue was eventually identified, using infra-red spectroscopy, to ward off medico-legal action.

A 2-year-old girl was brought to the Accident and Emergency Department by her aunt and uncle who were caring for her while her mother was in hospital. They reported that the previous day the General

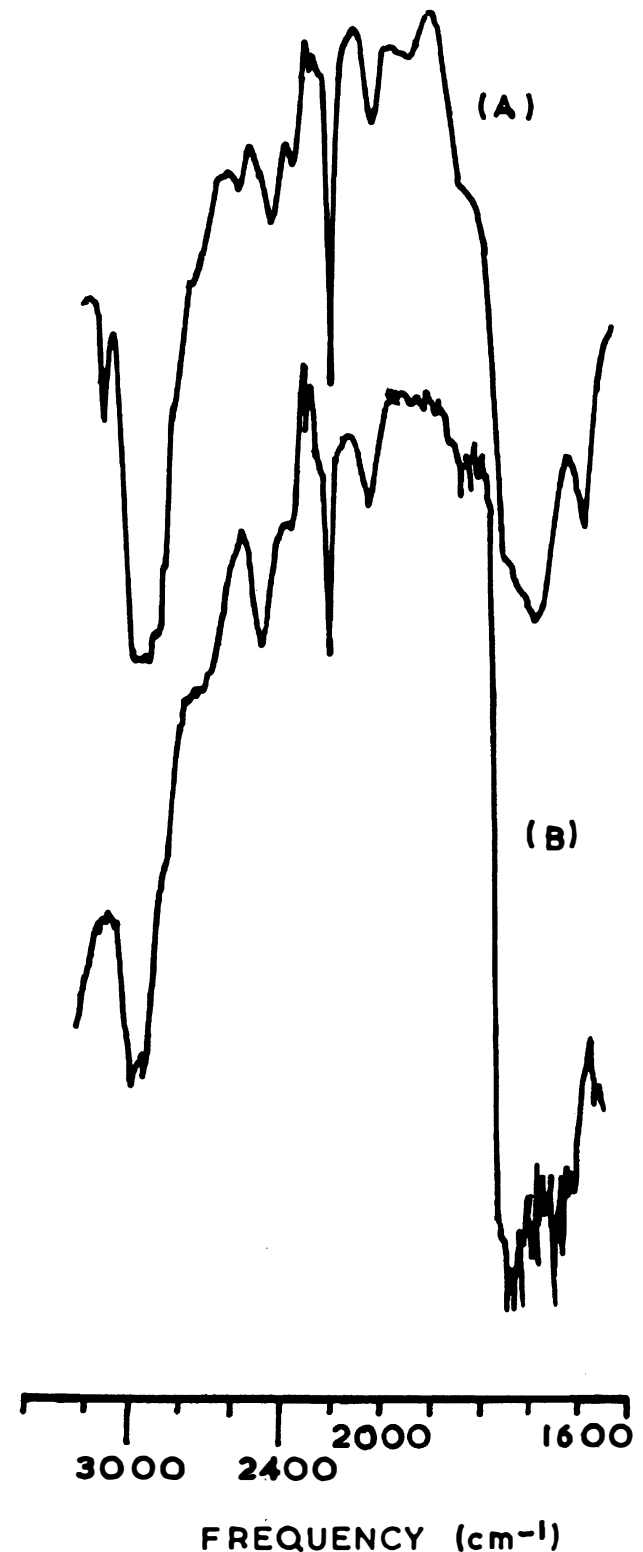


Fig. 1. Infra-red spectra of a sample from the child (trace A), and of Superglue mixed with skin (trace B).

Practitioner had prescribed chloramphenicol ointment for conjunctivitis. This had been instilled once without incident, but on being put in again on the day of presentation it had caused distress and now the child could not open her eyes.

On examination, there was a clear substance on the skin around both eyes. The left eye was firmly closed by a white material adhering in a wad to the upper and lower lashes forming an almost complete tarsorrhaphy. The Casualty Officer diagnosed that Superglue had been put into the eyes. This was denied by the relatives, who blamed the chloramphenicol ointment.

The child was admitted and a saline pad was applied to the eye. The next day pus was spurting under pressure from a small gap in the tarsorrhaphy. The lids were released surgically. A wad of hard abrasive material was found inside the lids causing an extensive corneal abrasion. The substance was assumed to be the cyanoacrylate adhesive known as Superglue.

The findings were presented to the aunt and uncle in such a way that it was open for them to plead that a mistake had been made. They both then became inconsistent in their story and disagreed with each other. They became excessively abusive towards the ophthalmic consultant, threatening legal action against her for suggesting that they may have put Superglue in the child's eyes. They continued to assert that the chloramphenicol was contaminated with Superglue.

Social Services were called in. They considered a genuine mistake had occurred in the home. A professionals meeting was held and no further action was taken. However, it was thought safest to keep the child in hospital until she could be returned to her own parents. Her eye settled uneventfully over 10 days. The relatives did not produce the glue, nor did they show any desire to help the hospital in diagnosing and treating the child's eye condition.

The Poisons Unit at Lewisham proved that the chloramphenicol ointment contained no cyanoacrylate. The sample from the eye was analysed at Guy's Hospital using gas chromatography. The result was not conclusive as the sample had dried out, and so for definite identification infra-red spectroscopy was performed by one of the authors (A.D.J.) using control samples of Superglue containing human skin. (A.D.J.'s skin was pared into the control.) It was thought that the sample of glue from the child would necessarily be contaminated with skin: and so it proved to be for the infra-red spectra of the two samples were almost identical. This technique provides identification by a type of 'chemical fingerprinting' (Fig. 1).

As soon as definite identification of the Superglue was made there was no further threat of litigation.

This case serves to demonstrate how difficult it can be to arrive at a conclusion as to whether non-accidental injury has occurred. There have been a number of reports in the literature regarding the inadvertent instillation of cyanoacrylate glue into the eye.^{1,2} There is also adequate evidence in the literature regarding non-accidental eye injury in children,³ and misuse of cyanoacrylate in child abuse has been reported.^{4,5} In this case the change of story and the attitude of the relatives continued to give cause for concern that the instillation was non-accidental. The disconcerting concept of unconscious child abuse which sits on the spectrum between accidental and non-accidental injury has been raised in the literature.^{6,7} It is thought that there can be a 'general attitude of intent or underlying conflict' which leads to physical injury.

From a medico-legal point of view, the assistance given to a clinician in difficult circumstances by an academic in a university setting was invaluable.

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