Should eye protection be worn when performing necropsies?

A D Bull, J Channer, S S Cross, R D Start, A Kennedy

Abstract

One hundred necropsies were performed by four junior pathologists wearing safety spectacles. The number of blood splashes on the spectacle surfaces were counted after each necropsy. Splashes were found after 22 necropsies (range 10–34%), with higher numbers being seen among the more junior grades of pathologist. This suggests that the use of safety spectacles should be considered by all pathologists performing necropsies.

The conjunctival route of acquiring infection is well known. A recent paper investigated the incidence of blood splashes in the region of the palpebral fissures among general surgeons and found a significant incidence of such events.¹ In this paper we investigate the incidence of blood splashes around the eyes of pathologists performing necropsies.

Methods

One hundred necropsies were carried out on adults by four junior pathologists wearing Eyeshield Spectacles (BDH Apparatus, Apparatus Division, PO Box 8, Dagenham, Essex RM8 1RY). These spectacles are made from clear polycarbonate and incorporate a browshield and folding sideshields. At the end of each necropsy the number of blood splashes on the internal and external surfaces were counted with the aid of a hand lens. The spectacles were cleaned thoroughly between examinations. Bone sawing was not performed.

Results

The main results are given in the table. In cases where splashes were present the median number found was two, the maximum number eight. Most of the splashes were found on the front external surfaces, the sides were splashed in five instances, and the interior surfaces in three.

Discussion

Our results show that splashes in the area covered by the safety spectacles occurred during 22 necropsies. There was considerable variation in the numbers of splashes sustained among pathologists, with an incidence in the range of 10 to 34% of necropsies. There seemed to be a higher number of splashes among the more junior grades of pathologists, but the small sample size precludes statistical analysis. Evisceration carried out by the pathologist did not seem to increase the frequency of splashing.

The Howie code states that visors providing full face protection must be worn for necropsies on cases of leptospirosis, brucellosis, hepatitis B virus infection and Jakob-Creutzfeldt disease.² The Advisory Committee on Dangerous Pathogens stipulate that eye and face protection must be worn when carrying out necropsies on cases of infection with the human immunodeficiency virus.³ Gresham and Turner advise that goggles should be worn for all infective cases and emphasise the risk of developing localised eye infections from the splashing of infected material.⁴

Pathologists often carry out necropsies, particularly those under the jurisdiction of Coroners, on bodies with scant clinical information so assessment of potential infectious agents may not be possible. Even in cases where good clinical information is available it is not uncommon for an unsuspected focus of infection to be found during the procedure. Our study shows that splashes which could reach the conjunctiva occur in at least 10% of necropsies so we would suggest that all pathologists who are not usually spectacle wearers should consider using safety spectacles when performing necropsies. The cost is not high (less than £3 a pair) and the inconvenience caused by their use is minimal. The users in this study found that the safety spectacles did not impair their vision unless the plastic surfaces became scratched, which could be prevented by careful handling.

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Spectacle blood splashes

Grade of pathologist	Number of necropsies		With spectacle splashes	
	With evisceration	Without evisceration	With evisceration	Without evisceration
Senior house officer	16	12	4	3
Registrar	0	29	0	10
Senior registrar	26	7	2	2
Senior registrar	8	2	1	0
Total	50	50	7	15

1 Brealey S, Buist LJ. Blood splashes: an underestimated hazard to surgeons. *Br Med J* 1989;299:1315.

2 Department of Health and Social Security. *Code of practice for the prevention of infection in clinical laboratories and post-mortem rooms*. London: HMSO, 1978.

3 Advisory Committee on Dangerous Pathogens. *HIV—the causative agent of AIDS and related conditions*. Second revision of guidelines. London: Department of Health, 1990.

4 Gresham GA, Turner AF, eds. *Dealing with special cases. In: Post-mortem procedures (An illustrated textbook)*. London: Wolfe Medical Publications, 1979:90–120.