

Effectiveness of a hospital-wide programme to improve compliance with hand hygiene

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Background: Hand hygiene prevents cross infection in hospitals, but compliance with recommended instructions is commonly poor. We attempted to promote hand hygiene by implementing a hospital-wide programme, with special emphasis on bedside, alcohol-based hand disinfection. We measured nosocomial infections in parallel.

Methods: We monitored the overall compliance with hand hygiene during routine patient care in a teaching hospital in Geneva, Switzerland, before and during implementation of a hand hygiene campaign. Seven hospital-wide observational surveys were done twice yearly from December, 1994, to December, 1997. Secondary outcome measures were nosocomial infection rates, attack rates of methicillin-resistant *Staphylococcus aureus* (MRSA), and consumption of handrub disinfectant.

Findings: We observed more than 20000 opportunities for hand hygiene. Compliance improved progressively from 48% in 1994, to 66% in 1997 ($p < 0.001$). Although recourse to hand washing with soap and water remained stable, frequency of hand disinfection substantially increased during

the study period ($p < 0.001$). This result was unchanged after adjustment for known risk factors of poor adherence. Hand hygiene improved significantly among nurses and nursing assistants, but remained poor among doctors. During the same period, overall nosocomial infection decreased (prevalence of 16.9% in 1994 to 9.9% in 1998; $p = 0.04$), MRSA transmission rates decreased (2.16 to 0.93 episodes per 10000 patient-days; $p < 0.001$), and the consumption of alcohol-based handrub solution increased from 3.5 to 15.4 L per 1000 patient-days between 1993 and 1998 ($p < 0.001$).

Interpretation: The campaign produced a sustained improvement in compliance with hand hygiene, coinciding with a reduction of nosocomial infections and MRSA transmission. The promotion of bedside, anti-septic handrubs largely contributed to the increase in compliance.

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Topical mitomycin-C for partially excised conjunctival squamous cell carcinoma

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Purpose: To evaluate the efficacy of topical mitomycin-C (MMC) for treatment of post-operative residual conjunctival squamous cell carcinoma (SCC).

Design: Retrospective non-comparative case series.

Participants: Five patients, two males and three females, with conjunctival and histologically proven incompletely excised conjunctival SCC.

Methods: Patients were treated with topical MMC. Two to three courses of topical MMC, 0.02% or 0.04%, were applied four times daily for 14 days per course. One month after the final treatment, the scar area with surrounding normal conjunctiva was excised, and histologic evaluation was done.

Main outcome measures: No evidence of malignant cells in excised tissues.

Results: Histologic evaluation of the five specimens showed no malignant cells. Conjunctival scarring with inflammatory response was observed. No regrowth was

reported during the follow-up period of 18 to 37 months. The complications of MMC use included mild to moderate conjunctival hyperemia in three patients. All signs and symptoms were resolved after discontinuation of the treatment.

Conclusions: Application of topical MMC is an efficient treatment for residual conjunctival SCC. Longer follow-up is required to confirm these findings.

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Use of mitomycin C in the treatment of corneal conjunctival intraepithelial neoplasia

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Purpose: To evaluate the efficacy of topical mitomycin C as a treatment of corneal conjunctival intraepithelial neoplasia.

Methods: An open prospective analysis of 20 cases of corneal conjunctival intraepithelial neoplasia with recurrent disease (17 patients) or refusing surgery (three patients) were treated with topical mitomycin C.

Treatment was with mitomycin C eye drops, either 0.02% or 0.04%, four times daily for 1 week followed by a week off, the cycle then repeated for a second week.

Patients were examined weekly until the lesions were eradicated.

Results: Clinical resolution of disease occurred in 18/20 cases. The mean time to resolution was 4.5 weeks, the mean number of cycles of treatment was two. Average follow up was 13 months with four cases of recurrent disease. These four cases were

retreated with complete resolution in two cases. Epithelial toxicity occurred in 10/20 eyes and lid toxicity in two cases. There were no long-term complications on discontinuing mitomycin C.

Conclusions: Mitomycin C is effective in inducing regression of corneal conjunctival intraepithelial neoplasia. Complications are common but self-limiting. An optimal regimen is still to be established.

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