110

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HOW LONG REMAINS JELLY INSTILLED INTO THE URETHRA THERE – CAN CHLORHEXIDIN AS ADDITIVE BE HARMFUL TO PATIENTS ON INTERMITTENT (SELF)- CATHETERISATION?

Aims of Study
The desinfectant Chlorhexidin as additive in jellies being instilled into the urethra before catheterization was recently regarded as potentially dangerous [Kramer et al, 2001]. The hypothesis was, that without micturition and therefore lacking washout of the urethra, the jelly remains many hours in the urethra, giving time to chlorhexidin to cause local and via resorption general toxic effects. There are no data available, informing how long a jelly instilled into the male urethra of patients, who have no spontaneous micturition and therefore emptying the bladder by intermittent catheterisation, remains there. This was evaluated in this study with the help of radioactive labelled jellies.

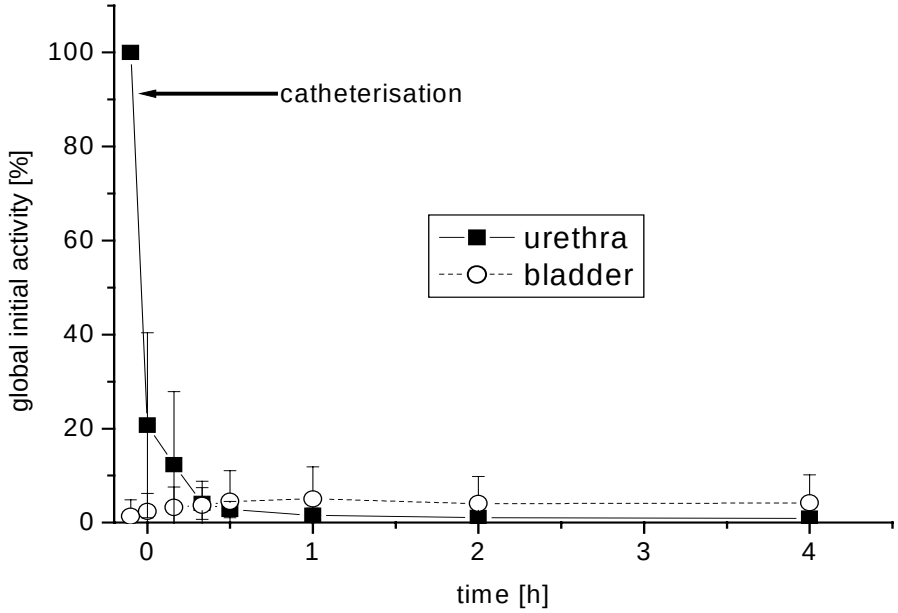
Methods
6 cc of a jelly were mixed with 30 MBq 99Tc-DTPA. Before instillation, immediately afterwards, as well as 5, 10, 20, 30, 60 120 and 240 min. after catheterisation gamma camera imaging was performed over urethra and bladder. Radioactivity distribution was evaluated quantitatively by ROI technique and blood activity counted. Eight males being on intermittent self-catheterisation since years, who had given the written consent, were evaluated.

Results
The data show that 20 min. after instillation less than 10% (mean 4.06%) and after 60 min. less than 2% (mean 1.55%) of the activity initially encountered in the urethra were demonstrated (fig.1). The blood activity was below 0.2% of the initial activity, however this does not necessarily mean that minimal amounts of Chlorhexidin was resorped also.

Conclusions
Jelly with Chlorhexidin (0.05%) instilled into the urethra remains there only for a short time and drains off the urethra within 20 min. even if there is no sponaneous micturition. These data let us conclude that the time of action for Chlorhexidin added to a jelly, in the urethra is only short and that there is no relevant resorption. It is therefore almost certain that the added Chlorhexidin in these jellies does not have local or general toxic effects once it is injected with jellies into the urethra.

Reference: Kramer et al. Hyg Med 2001:26(1/2):14-24

Fig.1: Decrease of measured radioactivity over the urethra and the bladder over time in % of the global initial activity after instillation of radioactive marked jelly into the male urethra.


100
80
60
40
20
0
global initial activity [%]
catheterisation
urethra
bladder
0
1
2
3
4
time [h]