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Abstract (publication only)

**Voriconazole is stable at high temperatures and released from cement spacers**

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**Objectives:** Voriconazole can be useful for the treatment of prosthetic joint infections due to *Candida* especially if it can be placed in a spacer. However, its stability at high temperature is not known, and it is an important data, as during cement polymerisation, the temperature can rise up to 80°C. **Methods:** We had the opportunity to make in vivo dosage of voriconazole in a patient who presented prosthetic joint infections due to *Candida glabrata* in his both hips. For several reasons (anaesthesia and surgery technique) both removals and spacer insertions were spaced of 1 week. After removal, the surgeon inserted a custom made spacer where he mixed voriconazole powder and cement. The loading voriconazole doses were 600 mg in the right spacer and 400 mg in the left one. The difference was due to the size of the spacer. One week after the second insertion, a needle puncture was performed in both hips, namely 1 week after the insertion of the right spacer and 2 weeks after the left one. The patient did not received intravenous voriconazole during this period. Voriconazole concentrations were measured using high-performance liquid chromatography coupled with a diode array detector method. **Results:** Voriconazole was found in both samples. Concentrations were respectively 0.1 mg/L at week 1 and 0.04 mg/L at week 2. The second aspiration needed the instillation of 1ml of physiological serum, meaning that the concentration measured is far lower than the reality. **Conclusion:** 1) Voriconazole was found in the liquid surrounding the spacer, meaning that the heat, produced by the exothermic reaction during polymerisation, did not destroyed it. 2) Voriconazole is released by the cement spacer. 3) The concentration observed after 1 week is equivalent to the MIC of some *Candida* species such as *C. albicans*, *C. parapsilosis* or *C. tropicalis*. One could then hypothesise that during the first week the concentrations were over the MIC and thus that the local concentrations obtain could help to cure the patient, in combination with systemic administration of the molecule.