LEMON, VINEGAR, FUNGUS AND "BROWN SUGAR": A NEW CHALLENGE FOR HARM REDUCTION

Imbert, Elliot ¹; Aznar, Christine ²; Natar, Ruth ²

(1) APOTHICOM, CMS, 64 avenue Georges Gosnat, Ivry-sur-Seine, France.

Tel N°: +33-(0)146 707 072 - Fax +33-(0)143 902 005 - e mail: elliot.imbert@wanadoo.fr (2) Centre de Biologie Médicale Spécialisée de l'Institut Pasteur - 75724 - Paris Cedex 15.

Introduction. Systemic candidiasis among IDUs is linked to "brown sugar" consumption- the injection of brown heroin.

Users of brown heroin often use lemon juice to disolve the heroin. The lemons are reused and can be contaminated by Candida albicans. Various issues confirm that this is the origin of the candidiasis. The use of lemon juice to dissolve injected crack has the same consequences. The injection of this fungus can subject IDUs to the development of metastatic fungal lesions in the skin, the eyes, the osteo-articular system and the pleura.

Objective. Injection drug users must be informed of this issue and be given the information needed to prevent it. Brown heroin must be heated in order to make it suitable for injection, currently many people believe that the heat required to dissolve the drugs is sufficient to kill the fungus and that no other preventive measures are required. In this study we replicated the conditions of the usual heating before injection to determine whether or not the fungus was destroyed.

Methods. Cultures of Candida albicans CIP 1180 (concentration Mac Farland 05C and Mac Farland 1C) were place 35 degrees Celsius on chloramphenicol Sabouraud. It was heated for 4 or 5 seconds in a double boiler test tube containing the solution then we wait 4 or 5 seconds as soon as the first bubbles appear and that for all temperatures under consideration.

Results. Assays were carried out at 50 Celsius and 60, then at 70, 80 and 90 enabled us to confirm the presence of the growth of Candida Albicans. The readings were done at 24 hrs and 48 hrs. The fungus was present with and without lemon juice until 80. The most suitable temperature for the destruction of Candidas is above 90 degrees, i.e. beyond the temperature obtained after heating the blending with a lighter under the usual injection circumstances.

Conclusion. Candida albicans can survive the temperature usually achieved in typical injection activity. As this illness is common among injectors of brown heroin measures should be taken to prevent it. Users of brown heroin should be instruced not to re-use lemon juice to dissolve the heroin, instead they should use fresh lemons or clean citric acid obtained from a pharmacy.

When harm reduction kits are availables, like Steribox® in France, disposable citric acid bag into the kit can prevent this infection among IDUs, particular among HIV positive drug users who are at high risk of such infections.

