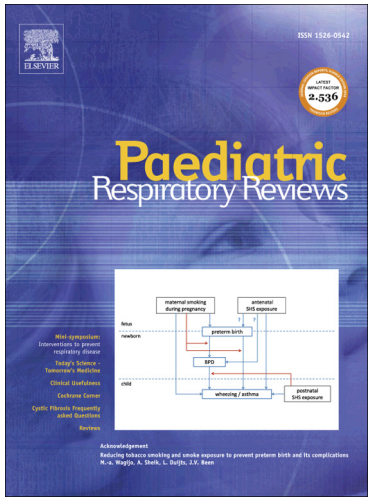

The 2017 Royal Society Of Medicine Cystic Fibrosis Symposium

Royal Society of Medicine Cystic Fibrosis Minisymposium Urinary Tract Stones in Cystic Fibrosis

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Royal Society of Medicine Cystic Fibrosis Minisymposium

Urinary Tract Stones in Cystic Fibrosis

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Summary

Urinary tract stones are a common problem in a general population but increasingly so in cystic fibrosis (CF) patients as survival improves. Mechanisms of stone formation are discussed, particularly those unique to CF patients. Modalities of treatment and the decision making process in this choice is outlined as well as possible future preventative strategies.

Introduction:

Urinary tract stones are common, over a lifetime affecting around 10-15% of men and 5% of women in the general population. There are a number of genetic and environmental risk factors as listed in Table 1. In a general population they are therefore a common cause of pain and morbidity in a working age demographic. They can lead to recurrent hospital admissions, sepsis and even death. They cause similar clinical problems in cystic fibrosis (CF) patients, but episodes of pain and requirements for opioid analgesia may specifically further compromise respiratory function. Treatment may also be complicated by higher risks of respiratory complications if planning general anaesthesia. In addition, stones may be a consideration if planning organ transplantation and immunosuppression due to their associated risks of sepsis.

Theories of Stone Formation:

Stones vary in chemical composition, but the commonest type of stone (and almost all in CF patients) consist of calcium oxalate Stone formation is incompletely understood, but there are two general theories; the Fixed Particle & Free Particle models[1]. Urine is usually supersaturated with respect to