384 Long-term treatment with Pulmozyme® is associated with slower rate or improvement of lung functions decline in CF patients

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RhDNA-ase (Pulmozyme®) is used in the treatment in our patients since 1996. Currently 114 patients are on the chronic treatment with rhDNA-ase (39.5% of CF pts. on Slovak National Registry). 11 patients died in this period on respiratory or liver failure.

Methods: Longterm follow-up study of 84 CF patients aged 5–48 years, treated more than 10 years.

Patients were divided in three groups according to their initial FEV1 value: group A: (n = 13, mean age 17.2 yrs) with FEV1 < 60% p.v. Group B (n = 23, mean age 12.6 yrs) with 60% <FEV180%. In group A mean FEV1 showed continous improvement from 49% at the beginning of the treatment to 78% pred., in group B from 69% to 84% pred., and in group C from 95% to 99% pred. after 10 years on rhDNA-ase treatment. Similar trends showed other relevant lung function parameters (FVC, PEF, MEF50). Decrease of exacerbations of the disease, changes in the chronic colonisation (*Pseudomonas* sp.), and the improvement of the quality of life in our patients have been observed.

385 Cutaneous phototoxicity secondary to ciprofloxacin in adult patients with cystic fibrosis: incidence and association with genotype

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Aims: The fluoroquinolone group of antibiotics are known to cause cutaneous phototoxic reactions. The incidence of this phenomenon secondary to ciprofloxacin in the general population is low (2–3%), however a previous pilot study carried out by our team revealed the incidence to be increased in a sub group of patients with cystic fibrosis (CF). The aim of this study was to determine the incidence of phototoxic skin reactions in the adult CF population of Northern Ireland.

Methods: We conducted this study using an interview-based questionnaire in unselected adult CF patients during their routine clinic appointments.

Results: 105 patients were interviewed. 48 patients, 31 male and 17 female, described getting a rash on photo-exposed sites after taking ciprofloxacin. 33 of these patients did state that they had been given information and advice about this side effect before taking the medication. The commonest genotype of those affected was ΔF508/ΔF508 (23 patients), followed by ΔF508/G551D (3 patients), ΔF508/621+1G → T (2 patients) and ΔF508/R117H (2 patients). In 11 patients the genotype was either not determined or fully confirmed. The further 9 patients had other less common genotypes.

Conclusions: This study has revealed a 46% incidence of reported phototoxic reactions secondary to ciprofloxacin in our adult CF population. This is significantly higher than that previously reported for the general population. It is important that patients are fully counselled regarding this potential side effect.

Supported by: The Research and Development Office, Northern Ireland.

386 Cochleotoxicity of systemically administered tobramycin in Cystic Fibrosis patients

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Tobramycin, with cochleotoxicity as one of its major side-effects, is frequently prescribed in CF patients. The prevalence of cochleotoxicity due to tobramycin exposure in Cystic Fibrosis patients is investigated.

In this retrospective cohort study all performed audiograms were obtained from CF patients from the Haga Teaching hospital Adult CF centre. Collected were Pure Tone Audiometry (PTA) and High Frequency Audiometry (HFA) data. Cochleotoxicity was defined as at least one frequency showing >20 dB increase in hearing threshold uni- or bilaterally. All results were corrected for age and test-variability (10 dB).

Eighty Patients (80/193 = 41.5%) were reported to be treated with at least one period of systemically administered tobramycin. Thirty-two patients (33/80 = 41.3%) had at least one PTA and HFA. Cochleotoxicity was reported in 13 out of 27 patients (13/27 = 48.1%, 95% CI: 29.3–67.0%) The prevalence in the lower frequencies (8 kHz) was 25.1% (7/27 = 25.1% (95% CI: 9.4 – 42.5%). The correlation between the increase in hearing threshold and the cumulative exposure to tobramycin (AUC) was positive, but not significant. There was no difference in cochlear sensitivity to tobramycin exposure between the right and left ear ($p \ll 0.001$).

In conclusion, the prevalence of cochleotoxicity due to tobramycin exposure was reported in 48.1% of the CF patients measured by HFA. Standard PTA detected significant less patients with cochleotoxicity. As a consequence, guidelines for High Frequency Audiometry screening in clinical practice is necessary.

387 Vestibulotoxicity as a consequence of systemically administered tobramycin in Cystic Fibrosis patients

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Background: Tobramycin is a frequently prescribed aminoglycoside antibiotic in CF patients. One of its major side-effects of is ototoxicity. Although CF patients are routinely screened on cochleotoxicity, vestibulotoxicity is much less familiar in clinical practice. As it has not been prospectively investigated in CF patients, the prevalence of vestibulotoxicity due to tobramycin exposure in Cystic Fibrosis patients is studied.

Methods: In this prospective study, patients from the Haga Teaching hospital Adult CF center with at least one treatment with systemically intravenous tobramycin were given a questionnaire, physical examination for peripheral vestibular disorders. Finally, Electronystagmography with caloric irrigation was performed.

Results: Peripheral vestibular loss was found in 4 out of 21 patients (19.0%; 95% CI 2.20–35.8%). In one patient, central vestibular loss was reported. Preliminary results of the questionnaire show that 47.6% (10/21) of the patients reported some degree of whether dizziness or disturbance of the equilibrium. One patient with abnormal ENG did not report any complaints of dizziness in the questionnaire.

Discussion: The reported prevalence of vestibulotoxicity (19%) in CF patients is much higher than other authors reported in the general population (1.9–11%). This may be caused by the frequently given doses of systemically administered tobramycin in CF patients. Although these results are based on a small number of patients, they indicate for screening for vestibulotoxicity in CF patients in the case of tobramycin exposure.