Azithromycin: cardiovascular deaths

Beware risk factors for QT prolongation.

A US team conducted a cohort study based on a healthcare insurer database in Tennessee. This study compared patients who received a prescription for azithromycin, a macrolide antibiotic (347 795 prescriptions) and patients who did not receive an antibiotic (1 391 180 control prescriptions). Furthermore, when compared to amoxicillin, azithromycin was again associated with an increased risk of cardiovascular death (OR 2.49, 95%CI 1.38 to 4.50) and death from any cause (OR 2.02; 95%CI 1.24 to 3.30). The estimated excess of cardiovascular deaths was about 47 per 1 million treatment courses.

Some macrolide antibiotics carry a lower risk of pharmacokinetic interactions than others; this is a marked advantage of spiramycin. In contrast, other macrolides such as telithromycin have a particularly unfavourable adverse effect profile (2).

All macrolides are known to prolong the QT interval, which increases the risk of cardiac arrhythmia (2). The results of this study confirm that effects initially seen on the electrocardiogram can sometimes have fatal consequences. This risk must be taken into account, particularly in patients with risk factors for QT prolongation (hypokalaemia, co-administered drugs, etc.).

Saxagliptin and tuberculosis

Immunosuppressive effects.

Like other gliptins used in type 2 diabetes for their hypoglycaemic action, saxagliptin has immunosuppressive effects. Gliptins inhibit the enzyme dipeptidyl peptidase 4 (DPP-4), and modulate the function of CD26, a similar protein present on the surface of lymphocytes (1). Infections, especially urinary and upper respiratory tract infections, are more frequent in patients taking gliptins than in controls (1).

In 2009, premarketing studies showed no increase in the risk of tuberculosis in patients on saxagliptin (1).

In 2010, however, the clinical trials database on saxagliptin included 6 cases of tuberculosis among 4959 patients taking saxagliptin (0.12%), and none among 2868 controls (2). The difference was not statistically significant but the effect appeared to be dose-dependent (0.71 cases per 1000 patient-years with 2.5 mg/day saxagliptin, 1.19 per 1000 with 5 mg, and 1.4 per 1000 with 10 mg).

In the first quarter of 2012, the pharmacovigilance database of the US Food and Drug Administration (FDA) mentioned 5 cases of pulmonary tuberculosis and 5 cases of tuberculous pleural effusion attributable to saxagliptin (3).

In practice, it is better not to use these drugs which, despite their effect on blood glucose levels, have no proven clinical benefits.

Corticosteroid injections: serious infections and necrosis

Do not endanger patients.

In 2012, a group of German authors published an analysis of 278 reports of complications associated with corticosteroid injections, collected between 2005 and 2009 by the German system for handling complaints regarding possible medical errors (1).

The adverse effect was an infection in 223 cases, most of which occurred after an intra-articular (42% of cases), paravertebral (19%) or intramuscular (13%) injection.

There were also 55 cases of tissue atrophy, commonly after an intramuscular depot injection, mainly to treat allergy. 73 treatment errors resulted in infection.

There were also 24 cases of delayed diagnosis of infection, 18 breaches in aseptic technique, 14 cases in which the interval between injections was too short, etc., as well as 20 failures to inform the patient of the risks.

In one case, a 74-year-old woman who had received lumbar and sacral paravertebral injections for pain underwent 3 operations for abscesses in the paraspinal musculature, a psoas muscle, and the vertebral canal. The partial paralysis of her lower limbs caused by these abscesses slowly resolved.

In another case, an obese 49-year-old woman developed aseptic gluteal necrosis after receiving corticosteroid and diclofenac injections. After surgery to remove 500 g of necrotic tissue, an infection developed at the resection site requiring multiple hospitalisations.

The authors pointed out that “over-treatment is certainly a problem in […] medicine in general” and that “patients are being endangered where there is no justification for doing so” (1,2).