PRESS RELEASE

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“The Problem of Resistance: Sexually Transmitted Infections Are Becoming More Difficult to Control”

Almost 400,000,000 people worldwide aged 15-49 years acquire one of four sexually transmitted infections (STIs) each year, as Prof. Colm O'Mahony, MD (Chester, UK) pointed out at the EADV Congress in Copenhagen today. The numbers are alarming:

Chlamydia trachomatis  (146,000,000)
Neisseria gonorrhoea     (51,000,000)
Syphilis        (5,000,000)
Trichomonas vaginalis  (239,000,000)

Neisseria gonorrhoea: A Potential Public Health Crisis Looming?
Neisseria gonorrhoea has developed resistance to all the antibiotics ever used against it. The bacteria can acquire resistance in several ways: by acquiring plasmids, by transformability (ability to acquire DNA from the environment and incorporate it in the genome) and by standard mutational resistance. Third-generation cephalosporins have previously been used in the treatment of N. gonorrhoea, but it was only a matter of time until the bacteria acquired resistance. A strain of N. gonorrhoea (H041 strain) resistant to this antibiotic was first identified in a female sexual worker in Japan in 2011 [1].

Efforts to stem the spread of cephalosporin resistance are currently focused on:

1. Dual therapy by using azithromycin or doxycycline along with ceftriaxone. The 2015 CDC guidelines [2] recommend dual therapy with injectable generic antibiotic ceftriaxone and oral azithromycin as first-line treatment, but although ceftriaxone resistance has not yet been reported, it is probably only a matter of time before such isolates are detected.
2. Targeting core groups / people at high risk of getting a resistant infection.
3. Efforts to prevent Neisseria gonorrhoea infection through education and condom use. These strategies may delay but will not halt the worldwide emergence of totally resistant Neisseria gonorrhoea. The Gonorrhoea Antimicrobial Surveillance Programme (GASP) organised by the WHO [3] is already in place in some countries, but needs to be implemented worldwide.
4. A more tentative use of antibiotics in general: asymptomatic carriage of gonorrhoea in the rectum and throat is common in patients who are often treated with single antibiotics for other infections. As there is usually no inflammation from a throat or rectal infection, antibiotic concentrations are low enough in these areas to allow development of resistance either in N. gonorrhoea itself or in other commensal bacteria.
In addition to these efforts, a number of new agents targeted against N. gonorrhoea are being investigated in clinical trials (see recently published review [4]).

5.6 million people – equivalent to the population of Denmark – acquire syphilis every year
… and the single-dose oral standard therapy no longer works. Surprisingly, syphilis has recently developed resistance to azithromycin. The only alternative left is injectable penicillin. It is still effective, but due to the method of administration it is less convenient and more cost-intensive (which is a problem for less-developed countries). Moreover, many people are allergic to penicillin. Even more alarmingly, just this month, 11 new cases of highly resistant gonorrhoea have been found in the UK, mainly in the Leeds area. This strain is completely resistant to Azithromycin - part of the dual therapy needed for gonorrhoea. This is a major concern.