responses has stimulated new vaccine-concepts, especially in the field of adjuvant development.

Over the past two decades GSK Biologicals has developed an Adjuvant Systems (AS) platform. AS families are formulated with selected antigen(s) and are designed to enhance the immune response to the targeted pathogen for the target population. Extensive preclinical and clinical testing has lead to the development of AS-based candidate vaccines for malaria (RTS,S), HSV, H5N1 prepandemic influenza, and licensed vaccines for HBV and cervical cancer prevention (HPV) formulated with novel adjuvant technology. The GSK proprietary novel Adjuvant System AS04 (aluminium hydroxide combined with the immunostimulatory molecule, 3-O-desacyl-4'-monophosphoryl lipid A) has been combined with HPV 16 and 18 virus-like-particles to tailor the immune response optimally against a virus that typically hides from the immune system.

The immune response induced by the AS04-adjuvanted cervical cancer vaccine has been assessed in pre-clinical and clinical studies. In clinical studies, GSK’s both HPV-16 and -18 L1-VLPs when adjuvanted with AS04, induced a stronger and more sustained immune response for at least 4 years after the first dose, than when adjuvanted with aluminium hydroxide alone. In addition, AS04 allowed for higher and sustained concentrations of neutralising antibodies, as well as higher frequencies of memory B-cells.1

New vaccine technologies have opened the door to vaccination against diseases that were not preventable before. GSK has formulated its cervical cancer vaccine with AS04 to address the need for long term protection against oncogenic HPV, a virus that typically hides from the immune system and for which the disease remain silent for years, if not detected by classical screening methods such as PAP smears.

Reference


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35.004

Implementation of Cervical Cancer Vaccination. Reaching Girls and Women: Challenges and Opportunities

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Cervical cancer is the most common cancer in women in many parts of Asia. Indeed, 54% of the world’s cervical cancer burden is in Asia. Although cervical cancer screening with Pap smears has been effective, most Asian countries don’t have the resources to implement a comprehensive screening programme. Implementation of vaccination provides a realistic approach to improve cervical cancer control in these countries.

In Asia, successful implementation of cervical cancer vaccination can present more of a challenge than it does on other continents. Experience following the introduction of vaccination against common childhood infections highlights several practical issues, particularly concerning vaccination policy, financing and system capacity for vaccine delivery and inoculation. While the efficacy and tolerability of anti-HPV-16/18 vaccines are well established, policymakers in many Asian countries aren’t ready to formulate a national policy.

Implementation of anti-HPV-16/18 vaccination in Asia is likely to start with opportunistic vaccination of individual women. Physicians will introduce the vaccine to their patients seeking cervical screening or attending consultations for other reasons. Caretakers will also discuss the benefits of vaccination for their adolescent daughters with these patients. In some Asian regions, opportunistic cytology screening has reached a high level of penetration and cervical cancer incidence is declining. Opportunistic anti-HPV-16/18 vaccination may gain momentum in a similar manner to cytology screening. Once sufficient demand from individuals for anti-HPV-16/18 vaccines is reached, policymakers are likely to adopt national policies for mass vaccination of targeted populations.

An important first step in implementing anti-HPV-16/18 vaccines in Asia should be to focus on heightening awareness of the need for effective strategies for cervical cancer prevention and the role of opportunistic vaccination among the general public and primary healthcare workers. In a two-pronged approach, a private-public partnership between industry and global charity organisations on competitive financing will further catalyse the wider acceptance of cervical cancer vaccination.

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Macrolides - Yesterday, Today and Tomorrow (invited)

36.001

RTI: Treatment Challenges

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Severe community-acquired pneumonia (CAP) treated in intensive care units (ICU) represents a great therapeutic challenge. There is growing evidence on the importance of atypical pathogens and combined infections as causes of severe CAP. Data from our single-center study show that Legionella and atypical pathogens are associated with over 20% of CAP. That is why combined ceftriaxone and parenteral azithromycin therapy became a standard treatment in our ICU. This is congruent with a majority of contemporary treatment guidelines which recognized the importance of a combined treatment of severe CAP. Evidences on the role of atypical pathogens, particularly C. pneumoniae, in the etiology of nosocomial pneumonia (NP), including ventilator-associated pneumonia (VAP), are also emerging. These pathogens are not so well recognized as possible pathogens and considered in present treatment guidelines of NP. Further surveillance is needed which might change our initial therapeutic approach in patients with NP.

In pediatric patients, Mycoplasma pneumoniae and Chlamydia pneumoniae seem to play a more significant
role in causing respiratory tract infections than previously thought. These atypical bacteria have been associated with acute tonsillopharyngitis (AT) and, unless adequately treated with antimicrobial therapy, it has been demonstrated that they can cause recurrent episodes of this disease. Moreover, it has recently been observed that the great majority of the children with a history of severely recurrent AT (and therefore considered eligible for elective tonsillectomy) are infected by atypical bacteria and that tonsillectomy seems to be effective in reducing the recurrence of both AT and acute respiratory disease in the presence of such infections. This means that treatment with macrolides can solve the acute illness and reduce the risk of recurrence of both AT and acute respiratory disease in the majority of the children with a history of severely recurrent AT (and therefore considered eligible for elective tonsillectomy) are infected by atypical bacteria and that tonsillectomy seems to be effective in reducing the recurrence of both AT and acute respiratory disease in the presence of such infections. This means that treatment with macrolides can solve the acute illness and reduce the risk of recurrence in the case of *M. pneumoniae* or *C. pneumoniae* infections and that appropriate treatment might postpone or abolish the need of tonsillectomy.

**36.002**

*Chlamydia trachomatis: Area Under the Iceberg*

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In both sexes, genital *Chlamydia trachomatis* infection is still the most commonly reported bacterial sexually transmitted infectious disease worldwide. The prevalence is highest in persons aged less than 25 years. In females, up to 40% of chlamydial cervicitis might ascend to the endometrium, and is responsible for the etiology of endometritis and salpingitis. Late sequel of Fallopian tube involvement include pelvic inflammatory disease, ectopic pregnancy, tubal factor infertility and chronic pelvic pain. Since the overwhelming majority of primary infections (urethritis in men and cervicitis or urethritis in women) are asymptomatic, early diagnosis should essentially rely on annual screening of sexually active young women as well as men at high risk sexual behavior. At present, nucleic acid amplification techniques (NAAT) are the most sensitive tests for the detection of the pathogen in male and female biological samples. Over the last decade, administration of a single oral dose of 1000 mg azithromycin is the recommended treatment for uncomplicated primary genital chlamydial infection in men and women. In addition, azithromycin was shown to be as effective as amoxicillin or erythromycin for the eradication of *C. trachomatis* infection in pregnant women and this regimen resulted in less adverse events. In a recent multicenter study in Central and Eastern Europe, prevalence of endocervical chlamydial infection in women aged less than 25 years was 6%, with significant differences of frequencies among some geographical areas. Risk factors of infection were in accordance with those reported form other parts of Europe.

**36.003**

*Acne vulgaris - Old/New Treatment?*

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Acne vulgaris is one of the most frequent skin diseases affecting predominantly adolescents. The therapy depends on the severity of the disease. Systemic antibiotics in acne treatment have always been a controversial topic, as deprecated and respected at the same time. Pulse azithromycin therapy has devoted attention of many dermatologists. Several studies on this therapy were published so far, but dosage regimens in pulsed azithromycin therapy slightly differ between studies. However, all of them present that azithromycin has better clinical efficacy and safety than systemic minocycline or tetracycline. At our department, azithromycin has been administered and studied for four and half years now, with remarkable results. We have compared the effect of azithromycin against quinolones and tetracyclines. Three groups (30 patients each) of comparable age (aged 14–18 years) and gender suffering from moderate acne papulopustulosa (Cook’s acne severity grading scale 2–6) were observed. Azithromycin was administered 500 mg orally during three subsequent days, followed by 500 mg weekly for the following six weeks. Ofloxacin was administered 100 mg for five days, 100 mg once daily following 10 days and 50 mg once daily during five weeks. Doxycycline was administered 100 mg twice daily for five days, 100 mg once daily for 10 days and 50 mg once daily following five weeks. Topical agents containing ichthamol and azelaic acid were applied. Significantly better results (reduction in inflammatory lesions) were observed after the third treatment week in the azithromycin group. The results remained significant even after therapy termination and at the follow-up visit (five months after therapy termination). Also, no adverse events were recorded in the azithromycin group.

**36.004**

*Acute Infectious Gastroenterocolitis: Use or Not to Use Antibiotics?*

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Travelers’ diarrhea (TD) is the leading cause of morbidity in travelers. This lecture will primarily address pediatric TD by discussing existing data on children as well as extrapolation of appropriate adult data and will propose reasonable therapeutic parameters for infants and children. TD is rarely associated with mortality though it is responsible for significant morbidity in traveling infants and children. Untreated, TD in children may last for days or even weeks. Prevention of TD generally includes dietary counseling and occasionally the use of chemoprophylaxis. The use of antimicrobial and antidiarrheal agents for the treatment of TD in children is controversial and there is still little data published and no firm recommendations available to guide the clin-