



CLINICAL PRACTICE

Egg allergy and MMR vaccination

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In South Africa, the Expanded Programme of Immunisation (EPI) recommends measles vaccination at 9 and 18 months. Measles mumps rubella (MMR) combination vaccines are not included in this regimen, but vaccination against rubella is recommended in females before childbearing age. Reported national measles vaccine coverage rates have been low over the previous 5 years (60%), and targets have therefore been set to improve the EPI coverage rates to 90%.¹ Contributing in part to the low vaccine coverage are egg-allergic children who are denied measles or MMR vaccination by health care workers wishing to avoid potential allergic reactions. It is therefore appropriate to highlight the recommendations of international health authorities, which share the local consensus that immunisations should not be withheld from egg-allergic patients.²⁻⁴ Despite these recommendations, the package inserts for local vaccines propagated in cultures of fibroblasts from chick embryos (listed below), continue to highlight egg allergy as a contraindication to vaccine administration.

Locally available MMR vaccine products⁵

Measles vaccines. Four measles vaccines are available: Diplovax contains the Edmonton Zagreb viral strain and is propagated on human diploid cells. Morbilivax, Rimevax and Rouvax are grown in cultures of fibroblasts from chick embryos and contain the Schwartz viral strain.

Rubella vaccines. Rudivax is propagated on human diploid cell cultures.

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MMR vaccines. Two of the three locally available MMR vaccines are grown in cultures of fibroblasts from chick embryos, namely MMR II and Trimovax. Trivarten Berna vaccine is propagated on human diploid cells.

All vaccines cultured in cultures from chick embryos contain minute, if any, egg ovalbumin. An analysis of the MMR II (MSD) vaccine, found it to contain 1 ng ovalbumin per 0.5 ml dose.^{6,8} In most double-blind, placebo-controlled challenges for egg allergy, the minimum oral doses that elicit allergic reactions are between 50 mg and 100 mg, although occasionally this may be as low as 2 mg.⁹ Therefore, the amount of ovalbumin in the vaccines seems to be too small to cause an allergic reaction in the majority of individuals even considering the parenteral route of exposure. Other potential allergens in the measles vaccine include gelatin and neomycin;¹⁰ both of these agents are present in larger doses than ovalbumin.¹¹⁻¹³ The majority of life-threatening allergic reactions to MMR vaccine have been reported in children who are not allergic to eggs. It therefore seems more likely that these reactions are due to the gelatin or neomycin contained in the vaccine.

A literature review¹⁴ shows that only children with a history of life-threatening reaction to egg or who have an allergy to eggs and coexisting asthma had life-threatening reactions after being vaccinated against measles. Skin prick testing has been used to try to predict allergic reactions to measles vaccinations, and there have been attempts to 'desensitise' children to egg using graded injections. Adverse systemic reactions to these procedures have been reported, and in this scenario, these procedures lack scientific rationale.¹⁴⁻¹⁶ Interpretation of the Pharmacia Immuno CAP-RAST immunoglobulin E (IgE) test remains difficult if positive, as predictive cut-off values do not exist for children with only a suspicion of having egg allergy with no concomitant atopic disease, e.g. eczema. The negative result does, however, provide a high negative predictive value and may allay fears at future vaccination, but this invasive test should be restricted to those children at high risk, and is impractical as a screening tool.

Recommendations

Measles and MMR vaccines are as safe as any other vaccine, and can safely be given to the vast majority of children regardless of whether or not they are allergic to eggs. As with all vaccine administration, adrenaline (epinephrine) should be readily available.



The small subgroup of children at increased risk, albeit remote, of experiencing an allergic reaction include:

1. Children with an allergy to eggs in whom previous exposure (prior oral ingestion or during vaccination) led to cardiorespiratory reactions. Children who have experienced milder forms of allergic reactions to eggs can be vaccinated safely without additional precautions.

2. Children who have food allergies and active, chronic asthma.¹⁷

This subgroup at increased risk must receive vaccination under medical supervision in a setting where resuscitation facilities and an anaphylaxis management protocol are available. Vital signs should be monitored for 2 hours post vaccination.¹⁸ Any child suspected of having had an allergic reaction to measles or MMR vaccine should be referred to a specialist allergy unit to define the timing and nature of the reaction and to evaluate the possible allergens involved.

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ISSUES IN PRACTICE

What do South African psychiatrists and GPs think, feel and know about evidence-based mental health care?

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In recent years, mental illness has been increasingly acknowledged as a major contributor to morbidity in both the developed and developing worlds.¹ To provide effective mental health care, practitioners require knowledge of advances in detection, assessment and treatment based on the best available evidence. The Internet and advent of electronic publishing mean that clinicians have access to the latest evidence almost

as soon as new research findings are made.² However, the enormous volume of available information can be overwhelming for busy practitioners. In an effort to provide the latest evidence in an accessible format, the Cochrane Collaboration prepares, updates and disseminates systematic reviews of the effects of health care interventions. These reviews attempt to provide answers to health care questions by identifying and appraising all relevant empirical studies and synthesising the results.^{3,4} The reviews are published electronically on a database, The Cochrane Library. The psychiatric field is well represented within the Collaboration and since its inception in 1993, over 130 reviews on psychiatric topics have been published (www.cochrane.org).

In order to inform proposed evidence-based health care (EBHC) training workshops specific to mental health practitioners and to identify appropriate measures of dissemination to this group, we undertook a survey of South African psychiatrists and general practitioners (GPs) with a special interest in mental health regarding their knowledge of, and attitudes towards, evidence-based mental health care (EBMHC).

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