General Practice Observed

Vaccination of rubella-susceptible women during oral contraceptive care in general practice

MAX GRINGRAS, R REISLER, J CAISLEY, W HELLIWELL, C H BOWKER

British Medical Journal, 1977, 2, 245-246

Summary

Over a six-month period women attending a general practice surgery for contraceptive pill prescriptions were asked whether they had had rubella and if they would give a blood sample to test for immunity. Of 459 interviewed, 104 (23%) did not want any more children and 69 (15%) had been vaccinated or had been shown to be immune by serotesting. Only three refused to give a blood sample, and 283 patients (62%) had their antibody concentrations checked. Two hundred and twenty-five (79.5%) could be reassured that they were immune, and the rest were offered rubella vaccination. It is thus quite feasible, and would add little to the work load, to screen the susceptible women in a practice and offer rubella vaccination to those needing it.

Introduction

In Britain the Department of Health advises a programme of rubella immunisation only for girls aged from 11 to 14.¹ Such a selective programme cannot hope to eliminate the disease from the community but if it is to eradicate congenital rubella all girls must be vaccinated so that they are protected before they start a family. That this objective has not been achieved has been recently emphasised in a report by Peckham *et al*² that only 71% of a sample of 16-year-old girls had received rubella vaccine. This is remarked upon by Brook and Ross³ and Wood⁴ in recent letters to the *BMJ*, in which they suggested that the great efforts needed to implement this programme are likely to be unproductive and that the aim should be selective vaccination of women before they start childbearing instead of the present campaign to vaccinate schoolgirls.

It is thus important to check the immune state of women and offer them vaccination, if necessary, before they become pregnant. This is obviously more effective than waiting until they are tested on their first antenatal visit, when it is too late. Therefore, we decided to set up a pilot study within our own practice

to examine the feasibility of screening and vaccinating women attending for renewal of their oral contraceptive prescriptions. Some of these patients will obviously have had children and may not be contemplating further pregnancies but it provided a group of women who could be recruited into this pilot study. Depending on the results, an extended programme could be devised to ensure screening for all susceptible women of child-bearing age.

Method

Our practice consists of four doctors in partnership who deal with 13 000 patients in a predominantly commuter-type area on the borders of Cheshire and Manchester. All women attending for oral contraceptive prescriptions were considered for the study. They were asked several questions which included: (a) whether or not further pregnancies were contemplated, (b) history of rubella, (c) history and results of previous serotesting, and (d) whether the patient was willing to co-operate in the survey by having a venepuncture.

Provided they agreed, a blood sample was taken there and then and sent to the Public Health Laboratory to determine their immune state. We wrote to those who were found to be non-immune, usually within 10 days of the original appointment, and sent a prescription for vaccine to be obtained from their local pharmacist and invited them to attend for vaccination in the very near future. Any defaulters were contacted soon after the missed appointment, by telephone if possible. After vaccination they were asked to attend six weeks later for a further blood sample so that we could check the success of vaccination and inquire about any side effects. All patients found or known to be seropositive had this fact clearly labelled on their case notes as "rubella immune" and this also applied to seronegative women if they had been vaccinated and then confirmed as having converted to seropositive.

Results and comment

Over a six-month period 459 women were interviewed, about 3.5% of the total practice list of 13 000 patients. Of these, 283 (62%) patients provided a blood sample and three refused to co-operate. The reasons the other 173 did not give a sample varied: 63 had been serotested before and were found to be immune, six had been vaccinated, six were awaiting sterilisation, and 98 did not want any more children. Of the 283 who provided a blood sample 58 (20.5%) were non-immune. These were all offered vaccination but 10 (17%) failed to attend. On further inquiry of these defaulters, three promised to attend in the future, five decided against vaccination as they did not want any more children, and the remaining two did not specify any reason.

When those who had been vaccinated were asked to return after about six weeks to provide another blood sample to check post-vaccination antibody concentrations, 38 (79%) attended. Only 75% of those tested after vaccination seem to have responded satisfactorily, a result that is surprisingly low. The reasons for this are not yet clear, but the data are being checked, and information is being obtained on

Priorsleigh Group Practice, Poynton SK12 1RA

MAX GRINGRAS, MB, DRCOG, principal

R REISLER, MB, CHB, principal

J CAISLEY, MRCS, LRCP, principal

W HELLIWELL, MB, CHB, principal

Wellcome Foundation Ltd, London NW1

C H BOWKER, MB, BCHIR, medical adviser (now director of medical affairs, Servier Laboratories Ltd, Greenford, Middx UB6 7PW)

the type and source of the vaccines used and their relevant storage conditions. We hope to report the result of this investigation later.

A claim by a patient to have had rubella is recognised as an unreliable guide to her immune state and we found that 32.8% of those shown to be susceptible claimed to have had rubella. On the other hand, of those found to be immune, just over half had no previous history of clinical infection, and 38% of those who had had rubella did not supply a blood sample.

The mean age of the group who did not give a blood sample because they did not intend any further pregnancies was higher, $37.25 \pm \text{SD } 6.59$ years, than that of the group who did give a sample, 26.15 ± 6.68 years.

Side effects—Only two patients complained of any adverse reactions after vaccination; one developed a slight rash and the other felt "off colour" for a few days.

Discussion

Congenital rubella is preventable, and yet it still occurs. While the programme of offering vaccination to schoolgirls aged from 11 to 14 appears a simple solution, in practice it allows up to 30% to escape the net.² The reasons for this failure are various and no doubt not completely preventable so the operation of a second-stage process might catch defaulters at a later date. Goodman⁵ suggested a two-fold approach in general practice: one directed at girls aged from 11 to 14 identified from the age/sex register who are invited to attend for vaccination and the other at women attending the family planning and antenatal clinics. He found only 8% seronegative in the adult group screened and of these 74, 37 failed to attend for vaccination. On follow-up it was found that of these, two had been sterilised, two refused vaccination, and one had been naturally infected. This still left 32 susceptible.

We found 20.5% to be non-immune, a figure that is higher than the 8% found by Goodman, although not necessarily out of line with other studies. There is no reason to suppose any great difference in the assay technique used by each laboratory and so the difference may be due to variation in the prevalence of wild rubella in the two populations. We had a much better uptake of vaccination than Goodman, which may be because people were notified of the test results soon after the blood sample was taken rather than waiting until a routine visit to the clinic six months later. Indeed, in our study if the three who promised to attend in the future actually do so, then there were only two failures to attend for vaccination who remain unprotected.

The problem of checking women for their rubella immunity state and then persuading those who are non-immune to attend for vaccination has also been studied by Rose and Mole.⁶ Although they found 30% susceptible in their population screened, only a third actually agreed to be vaccinated. It would seem that their poor response was largely due to their waiting for the patient to make a spontaneous return to the surgery and informing them of the seronegative results only after two months. We found that defaulters could be persuaded to attend quite easily, in most cases by early follow-up by letter or by telephone.

Another problem found by Rose and Mole was that women are unlikely to attend the local pathology laboratory for a blood sample. Of the first 25 women they interviewed, one refused to give a sample but the other 24 appeared to agree: however, in fact only six attended the laboratory. When they performed the venepuncture at the time of the first interview only one out of 45 women refused, and it would seem that immediate action on broaching the subject and on the receipt of the results is the crux of good patient compliance.

It is feasible to screen women in general practice for immunity to rubella and, provided the follow-up of seronegative patients is carried out quickly and defaulters are contacted, the programme's success is acceptable.

We found it added little to our work load, and if we had followed the same procedure without keeping special records the increase would have been even less. We thought the whole

exercise worthwhile in view of the actual benefit of eliminating congenital rubella, and also for the important psychological benefit of giving would-be mothers peace of mind for the future.

We have now extended this screening programme to include all those who attend for insertion of intrauterine contraceptive devices. As most women in this area come to their general practitioner rather than attend a family planning clinic, we feel that our screening programme will encompass most of this group, but it still misses those women who do not use contraceptives. We have, therefore, put up a notice in the waiting room inviting women over the age of 16 to have their rubella immunity checked, and we also intend to inquire after the rubella immune state of all women of child-bearing age attending for any reason, unless the notice "rubella immune" is on the cover of their notes. In this way we believe we can ensure that virtually all susceptible women in our practice are screened and vaccinated if necessary.

We thank our secretaries and receptionists who have been so willing in this study, and especially our administrator, Mrs J Clancy. We are also grateful to Dr McDonald of the Public Health Laboratory, Manchester, and to the Wellcome Foundation Ltd for their help with the printing and statistical analysis and advice.

References

- 1 Department of Health and Social Security, *Immunisation against Infectious Diseases*, London, DHSS, 1972.
- 2 Peckham, C S, Marshall, W C, and Dudgeon, J A, *British Medical Journal*, 1977, **1**, 760.
- 3 Brook, C, and Ross, E, *British Medical Journal*, 1977, **1**, 1028.
- 4 Wood, J F, *British Medical Journal*, 1977, **1**, 1157.
- 5 Goodman, M, *Update*, 1976, March.
- 6 Rose, A J, and Mole, K F, *Journal of the Royal College of General Practitioners*, 1976, **26**, 817.

(Accepted 9 June 1977)

ONE HUNDRED YEARS AGO It is not merely in tropical countries that those very alarming and fatal seizures known by the name of sunstroke occur during hot weather. They have been witnessed on a large scale in the Prussian and Belgian armies when exercising on sandy plains. In civil life, such attacks become periodically frequent, as in the city of New York; and every year they are to be met with in England during our hottest days. We mean real sunstrokes, not merely the various unpleasant head-symptoms often induced, especially in children, by exposure to the sun. We observe that quite recently there have been three deaths from sunstroke—all of labourers: one was at Lower Norwood; the other two were at Harrow and its vicinity. *Coup de soleil* is induced by a hot still dry atmosphere. It occurs less frequently if there be moisture in the atmosphere, and very seldom indeed when there is any movement of the air. It attacks most readily those who are exposed directly to the sun, or those who are confined to a close impure atmosphere. The chief predisposing cause is exhaustion from labour, especially after the free use of beer or of spirits. The premonitory symptoms are a sensation of lassitude, of sinking, especially in the back of the neck, nausea, swimming of the head, or headache. To these, some add frequent micturition. How, then, are we to ward off sunstroke? The main prophylaxis is to avoid exposure to the sun, and this the inhabitants of most southern continental cities do by ceasing to work at midday and by retiring from the heat. No doubt, sunstroke might be in great measure avoided in England by similar precautions; but we fear there would be great difficulty in enforcing them. The number of days in England so hot as to be likely to induce sunstroke is so small, that it is not likely to be taken into consideration by masters or men. The masters would grudge the loss of labour, and the men would be inclined to laugh at taking such precautions. Next to avoiding direct exposure to the sun, the best measures for preventing sunstroke are, to have the head and back of the neck well protected by a white covering from the sun; to have the neck open, the action of the chest as free as possible; to drink no spirits; to cease working and get into the shade whenever premonitory symptoms appear; to have a plentiful supply of cold water at hand, both for drinking and for cold affusion, which is the most ready as it is the most effective of remedies. (*British Medical Journal*, 1877.)