PATCH I Trial

RESULTS

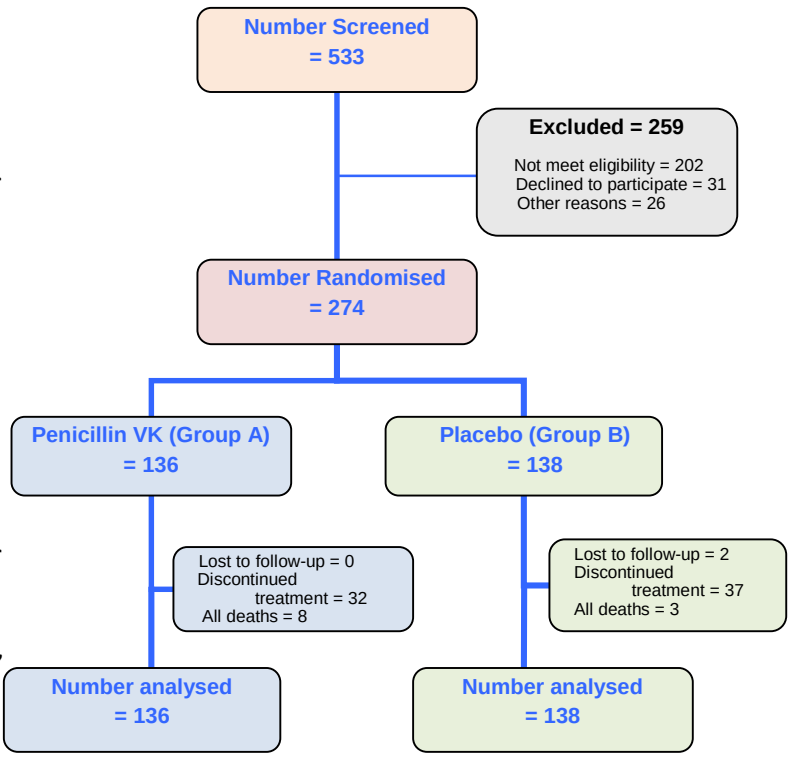
Overall finding: The results of the PATCH I study showed that whilst taking low penicillin your risk of having another bout of cellulitis is halved; however, the effectiveness declines when medication is stopped.

Cellulitis of the leg is a common, painful and serious bacterial infection of the skin. Around 2 to 3 % of all people admitted to hospital have cellulitis and may have to stay in hospital for around 9 days. Up to half of patients treated experienced repeat attacks, or other difficulties such as swelling of the leg and ulceration.

This study was designed to tell us if low dose penicillin, given for a period of 12 months after an attack of cellulitis, could prevent further attacks and complications such as swelling and ulceration. To date, it is the largest study to have been conducted investigating the prevention of cellulitis of the leg. Twenty two centres all over the UK (including Northern Ireland) and also in Cork (Eire) recruited into this study. The study was funded by Action Medical Research (www.action.org.uk).

What did the study involve?

Participants were placed in two groups at random, with an equal chance of being allocated to either group. Group A was given low dose penicillin tablets and Group B was given placebo tablets, to be taken twice a day for twelve months. The number of participants in each group can be seen in the flow chart opposite. Information was collected at a hospital visit at the start of the study and then by the PATCH study team by telephone (or by postal questionnaires), at 10 days after starting the study tablets, and then three, six, nine and twelve months later. The twelve month call marked the end of the tablet taking part of the study for participants, who then went into the follow-up phase. Calls were then made less frequently, every six months, for up to two years. Information on cellulitis and other health issues was collected at each contact. Neither the research team, nor the participants, knew who was in Group A or B, and thus PATCH I is described as a "blinded" study.



Who took part in PATCH I?

Patients who had had a bout of cellulitis of the leg within six months of joining the study and had a history of at least one other bout were eligible for PATCH I. Participants began entering the study in July 2006 and recruitment was completed in January 2010. Unfortunately, because it took longer than expected to hit the target recruitment those people entering towards the end of the extended recruitment phase did not have complete follow-up of three years as planned; we found that 94% of the participants were still being followed up at 12 months and 90% at 18 months, but this then quickly reduced to just 24% of our participants having the 36 months described in the original study. This is not due to participants deciding not to take part but simply a reflection on the timescale and extension of recruitment. The final number of participants entering the study was 274, 105 % of the 260 we needed, so the extension was worthwhile. With 274 participants, this is by far the largest study in cellulitis prevention that has ever been completed.

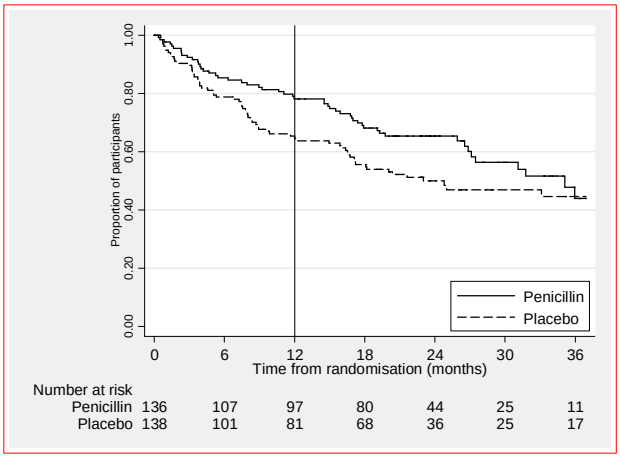
Were the two groups similar to begin with?

Yes, the participants in the penicillin and placebo groups were very well matched. The two groups were similar in age, weight, sex (male : female ratio), and whether the participants were suffering from an ulcer or swelling of the legs when they entered the study. We also looked at the number of study tablets taken during the study. The number of tablets taken by participants was again very similar in both groups and the number of participants deciding they no longer wanted to take part in the study was similar too.

What was the main result?

The main results indicate that, whilst taking penicillin, 30 participants (22 %) experienced another bout of cellulitis compared with 51 (37 %) in the placebo group. This suggests a protective effect from the penicillin which, in statistical terms, is significant (p = 0.009). That is a less than 1% probability that this reduction in cellulitis was by chance alone.

The analysis carried out indicates a 45 % reduction in the risk of further bouts of cellulitis of the leg whilst taking penicillin, however this protective effect then tails off over the time that none is taken and indeed the number of cases of cellulitis become equal after a further two years.



The graph to the right indicates a relatively large gap between the two groups (lines) over the period during which the tablets were taken (the first 12 months), however this effect was not sustained over the whole 36 months of the trial. The difference between the penicillin group (solid line) and the placebo group (dashed line) reduces to nothing after 2 years off treatment indicating the loss of any protective effect.

We can see that over the three years of the study there were fewer overall cases of cellulitis in the group that took penicillin (119 compared with 164 in the placebo group), so even though the number of people having cellulitis eventually became the same in both groups it shows that those who had taken penicillin had fewer further episodes.

These results suggest that longer term treatment may be required or indeed used in combination with other preventative strategies.

What were the other results?

We looked at several other factors such as diabetes, lymphoedema and body weight. We wanted to see whether taking penicillin was more, or less, effective for people with one or more of these conditions. Overall, we found that most didn't have an effect, however people with a high Body Mass Index (BMI), or those who have had more than three previous episodes of cellulitis, or had pre-existing problems with oedema or ulcers were at a greater risk of suffering recurrence of the cellulitis of the leg.

What can I say to my doctor?

Do feel free to take this newsletter along to show your doctor. Even though this research shows that taking a daily dose of penicillin for twelve months helps to prevent further episodes of cellulitis of the leg whilst taking it, it is not yet known for sure what happens when the penicillin is stopped. This may take a longer term study to investigate fully.

We can also see that that there are some circumstances that may increase the likelihood of having recurrent episodes of cellulitis even when taking penicillin.

What is clear is that taking an antibiotic such as penicillin regularly is going to help; however, this should be used alongside other methods of prevention which can be discussed with your GP or local specialist.

Currently, there is very little evidence to indicate the best way to prevent recurrence of your cellulitis, so the PATCH I study, to which you've made an important contribution, is the best we have.

Thank you from the study team

We would like to take this opportunity to thank everyone who has participated in this trial. Without the time you have given up and the enthusiasm you have provided, this study would not have been possible.

What did you think about being involved in this study?

It has been sad to say goodbye to you all as we have felt part of your lives for the last few years. We hope you feel as much a part of this study as we have and that you all continue to do well. Over the years you have paid some wonderful compliments to us and also made some really interesting and valid points, which have been incredibly helpful. Here are a few of your comments which we wanted to share; *"...thank you all for your kind letters and phone calls, I must say it's been a pleasure. I know that I haven't been the best of patients but I have had some bad times during the course but I do hope that I have been some use to you"; "Glad to have been of help even though you have helped me, it was good to know I could and did phone you again when I needed help and advice"; "I do hope that information collected from myself and others taking part in the PATCH study will advance knowledge of the cellulitis condition. Anything which helps prevent or at least to discourage additional attacks of cellulitis can only be a good thing"; "Thank you for all your wonderful care and for all the work you do....."*. There were many, many more but we chose just a few to give you a taster.

Where will I find more information?

Please check the PATCH trial website (www.patchtrial.co.uk) for full details of publications and other relevant information. Please be aware that it may take several months before full details are available due to publication restrictions. If you have any questions please feel free to contact us using the details provided over the page.

Meet the team

This study was the idea and the passion of the late Professor Neil Cox, without whom this study would not have happened. Neil was a (consultant) dermatologist, based at the Cumberland Infirmary in Carlisle, and also the lead clinician for PATCH I.

The Chief Investigator for the study, that is the doctor who is responsible for the study and the overall safety of participants, is Professor Hywel Williams. Professor Williams specialises in research into skin conditions and is based at the Queens Medical Centre in Nottingham.

Professor Neil Cox

Professor Hywel Williams

This is the team that met in December 2011 when we discussed the results of the PATCH I trial. A few familiar members were unable to make it but we had an informative final meeting and also managed to celebrated a birthday too (Professor Nunn, back row on the right)!

The team at the Co-ordinating centre, Nottingham

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Not forgetting…
Brenda Cooper
our Clinical Trial Administrator who retired in July 2009.

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