Additional PCR testing performed and confirmed a BCG strain. The BCG strain was sensitive to Isoniazid, Ethambutol, Rifampicin and resistant to Pyrazinamide.

Other investigations included: Leishmaniasis serology negative, HIV negative, ESR, U&E, LFTs, CRP and Chest x-ray normal.

He was referred to infectious diseases clinic and prescribed Rifampicin, Isoniazid, Ethambutol and Pyridoxine for 9 months. At review after 2 months of treatment, the lesions were no longer itchy and were not discharging pus or blood. On examination, the lesions were less indurated and erythematous.

Fig 2.

The Bacille Calmette-Guérin (BCG) vaccine is a vaccine against Mycobacterium Tuberculosis infection which has been in use since 1921. BCG uses a strain of live attenuated Mycobactium Bovis.¹

In the United Kingdom, the BCG vaccine was administered to all secondary school children until 2005 when a targeted programme for those at higher risk of TB was introduced.¹

The BCG vaccine has been administered more than 4 billion times. Adverse events in BCG administration are rare. In a study of 117,533 vaccines abscesses were reported in 0.02% times. Adverse events in BCG administration are rare. In a

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The BCG vaccine has been administered more than 4 billion times. Adverse events in BCG administration are rare. In a study of 117,533 vaccines abscesses were reported in 0.02% of patients² and in another study the incidence of BCG abscess of 0.05%.³

There are no large randomised control trials investigating treatment of BCG abscesses.

A random, group control study of 33 patients compared isoniazid vs isoniazid/rifampicin; the combination therapy showed a higher cure rate with acceptable side effect profile.⁴ This was the case with our patient. There are case reports of surgical excision or observation

In summary, we report a case of BCG abscesses as a rare adverse reaction to the BCG vaccine in an immunocompetent individual. These abscesses are currently responding to treatment with anti-tuberculosis medications. This case highlights that MTB infection should be considered in patients who present cutaneous eruptions after receiving BCG vaccination.

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REFERENCES

1. World Health Organisation. BCG vaccines: WHO position paper – February 2018. Wkly Epidemiol Bull. 2018; 93(8): 73-96.

2. NHS. [Internet]. Vaccinations: BCG (TB) vaccine side effects. 2016. Available from: https://www.nhs.uk/conditions/vaccinations/bcg-tb-vaccine-side-effects/#bcg-injection-scar [Accessed Feb 2019].

3. de Souza GR, Sant’Anna CC, Lapa e Silva JR, Mano DB, Bethlem NM. Intradermal BCG vaccination complications – analysis of 51 cases. Tubercle. 1983;64(1):23-7.

4. Hendry AJ, Dey A, Beard FH. Adverse events following immunisation with bacille Calmette-Guérin vaccination: baseline data to inform monitoring in Australia following introduction of new unregistered BCG vaccine. Commun Dis Intell Q Rep. 2016;40(4):E470-E474.
of public attention and this may account for some of its popularity.

We also looked at what sections of the topics received most views. The sections of the topics with the most page views suggest a clear pattern of usage. The top two sections include the topic homepage and the “highlights-summary” page. However, this is to be expected as these are the first pages that users land on when they go to a topic.

Where they go next is of more interest; and here there are clear messages from the data. Six of the next ten most popular sections relate to diagnosis – these include the sections on “approach to diagnosis”, “history and examination”, “differential diagnosis”, “investigations”, “diagnosis: step-by-step” and “case history”. Of the remaining, three relate to issues in management. These include the sections on “treatment options”, “treatment details”, and “approach to management”.

The data suggests that users are utilising the clinical decision support tool to aid their decisions in diagnosis and management of notifiable viral infectious diseases and that they need help in the basics of taking a history, conducting an examination, ordering tests and ruling in or out differential diagnoses. Equally it may be that they want to confirm what they are doing is correct. The usage behaviour is largely related to the clinical workflow and suggests that users are using the tool at the point-of-care and not as a referential source that they might look at after the clinical event.

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REFERENCES

1. Kwag KH, González-Lorenzo M, Banzi R, Bonovas S, Moja L. Providing doctors with high-quality information: an updated evaluation of web-based point-of-care information summaries. *J Med Internet Res.* 2016;18(1):e15.

2. Walsh K. Online clinical decision support: how it is used at the point-of-care. *BMJ Simul Tech Enhanc Learn.* 2017;3(2):73-4

3. Islam R, Weir CR, Jones M, Del Fiol G, Samore MH. Understanding complex clinical reasoning in infectious diseases for improving clinical decision support design. *BMC Med Inform Decis Mak.* 2015;15:101.

4. Gov.Uk [Internet]. Guidance: Notifiable diseases and causative organisms: how to report. London: Public Health England; 2019. Available from: https://www.gov.uk/guidance/notifiable-diseases-and-causative-organisms-how-to-report#list-of-notifiable-diseases [Accessed Feb 2019]

5. Gov.Uk [Internet]. Research and analysis: notifiable diseases: historic annual totals. Cases of infectious diseases: annual total figures from 1912 to 2017. London: Public Health England; 2018. Available from: https://www.gov.uk/government/publications/notifiable-diseases-historic-annual-totals. [Accessed Feb 2019]

Twenty-two species of native macrofungi were collected from woodlands throughout Northern Ireland (Table 1). *Lentinula edodes* (Shiitake mushroom) was also examined, given its popularity as a constituent of Asian (mainly Japanese) cuisine. Formal identification of all macrofungi examined was made by PCR-DNA techniques, employing fungal 18S rDNA universal ITS 1 and ITS 4 primers (ITS1: TCC GTA GGT GAA CCT GCG G and ITS4: TCC TCC GCT ATT GGA TAT GC). Aqueous and protein extracts (approx. 1mg/ml) were obtained from freeze-dried preparations of each fungus. Six bacterial and one fungal pathogen were examined