Vaccination against shingles and prevention of long-term ocular morbidity - a retrospective study of cost implications to the NHS

Mana Rahimzadeh, Alice Ditchfield & Bita Manzouri
Barking, Havering and Redbridge University Hospitals NHS Trust

Barking, Havering and Redbridge University Hospitals NHS Trust

Background

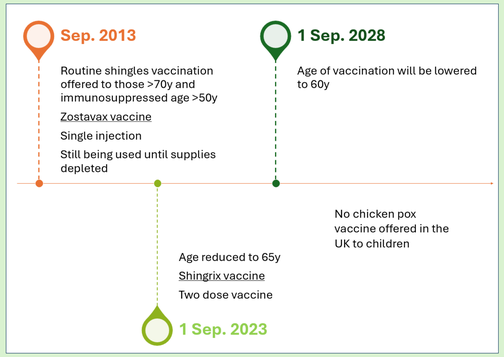
Shingles:

- Caused by reactivation of Herpes Zoster Virus (HZV)
- Initial infection causes chicken pox (children) → virus remains dormant in sensory ganglia of the cranial nerve or dorsal root ganglia
- In adults, reactivation of herpes zoster occurs due to failure of immune defence systems to control the latent replication of the virus
- Incidence related to immune status of individual
- Lifetime risk of developing shingles is 25%

Ophthalmic Shingles (Herpes Zoster Ophthalmicus, HZO):

- V1 is the commonest involved branch, affecting skin of forehead, upper eyelid and the orbit
- HZO accounts for 10-20% of all shingles cases
- 10-25% present with keratitis/uveitis/optic nerve palsies
- Complications: chronic ocular inflammation, loss of vision, debilitating pain, scarring, secondary bacterial infection

Current UK NHS Vaccination Programme



Aim

We undertook a retrospective study determining the number of patients aged 50 - 69y who had attended our hospital with HZO from 1st April 2022 to 30th June 2024. We determined how many were affected with long term ocular sequelae of this infection and the subsequent costs to the NHS.

Methods

- Undertaken at Queen's Hospital, Romford, UK
- Retrospective case note analysis of patients who attended eye casualty / main casualty with HZO
- Patients aged >50y but below eligible age for NHS vaccination
- Excluded patients who were immunosuppressed and therefore eligible for shingles vaccination based on immunosuppression irrespective of age
- Data collection between 1st April 2022 – 31st July 2024 (28 months)
- Data included: age, gender, total number hospital attendances and type of hospital attendance, total number and type of eyedrops prescribed, type and duration of medications, long term complications from HZO
- Total cost to NHS of these included patients presenting to NHS with HZO calculated

Vaccination Costs

Zostavax: £99.96 for one dose **Shingrix:** £320 for two doses

Total cost for patients presenting between 1st April 2022 – 31st August 2023 divided by £99.96
Total cost for patients presenting between 1st Sept 2023 – 31st July 2024 divided by £320

Costs to the NHS per patient

Attendance type	Cost
Eye casualty	£192
Main casualty	£250
Clinic appointment as a new patient	£175
Clinic appointment as a follow-up	£76

+

Medication costs
NHS indicative prices listed in the BNF
Total cost of different eye drops used by each patient summated = total eye drop cost per patient
BUT only cost of ONE bottle of eyedrops per patient included
Oral aciclovir: 800mg x 5 per day for 7 days = £3.30
BNF cheapest cost used if multiple brands

+

Imaging costs
For patients requiring follow up in medical retina clinic, cost of **ONE** OCT image x number of MR clinic attendances
OCT costs: £100 per pair of images
Standard policy in our medical retina clinics is that OCT images are taken for every patient
Excluded imaging studies in eye casualty or elsewhere

10 long-term complications affecting 9 patients → 1 in 5 patients in this study went on to develop long term complications requiring hospital attendance and long-term care

- Post herpetic neuralgia
- Corneal scarring
- Right lower lid ectropion secondary to cheek scarring
- Third nerve palsy

Results

- 48 cases of HZO which met inclusion criteria
- 01/04/22 – 31/08/23: 31 patients (group 1)
- 01/09/23 – 31/07/24: 17 (group 2)
- 25 female, 23 male
- Average age: 59.3y (group 1: 59.8y, group 2: 58.5y)
- **162 total** hospital attendances; average 3.8, range 1 – 23
- Number of eye drops per patient: average 2.67, range 0 – 14
- Duration of treatment with drops: average 10.9 weeks, range 0 – 122+ weeks
- 9 out of 48 patients on long term medications

Total cost of investigation and management of 48 cases

£42,981.98

For this same cost, a total of 350 individuals aged >50y could have been offered the shingles vaccination with far less cost implications to the NHS and morbidity to the individual

	Attendance costs	Medication costs	Imaging costs	Total costs	
Group 1	£29,544.00	£925.81	£900.00	£31,369.81	314 people
Group 2	£10,827.00	£385.17	£400.00	£11,612.27	36 people
			Overall total	£42,981.98	350 people

Conclusions

- It would be recommended, based on this small study at a secondary referral centre, that the age for shingles vaccination in the UK be lowered to 50 years, in line with many other countries of the world
- Our HZO study demonstrates cost savings to the NHS, noting that HZO accounts for only 10-20% of all shingles cases
- Long term morbidity to young working age patients can be avoided