UK Health Security Agency

Serial number: BN2025/029 **Date: 18/07/2025**

Event: Iatrogenic botulism associated with cosmetic botulinum toxin injections

Notified by: Gastrointestinal Infections, Food Safety and One Health (GIFSOH)

Authorised by:
William Welfare, Director, Health Protection in Regions/SRD On-call
Andrew Lee, Regional Deputy Director - Yorkshire & Humber
Julie Kinsella- Shenton- UKHSA Communications

Contact: Incident053.NRC@ukhsa.gov.uk

NIRP Level: Standard

Incident Directors : Gauri Godbole, Vanessa Wong, Joanne Darke, Clare Humphreys

Instructions for Cascade:

- **UKHSA Private Office Groups** to cascade within Groups
- **Devolved Administrations to cascade to Medical Directors and other DA teams** as appropriate to their local arrangements
- **Regional Deputy Directors** to cascade to Directors of Public Health, Environmental Health Teams in local authorities and local Integrated Care Boards
- **Integrated Care Boards** to cascade to GPs and local pharmacies
- **UKHSA microbiologists** to cascade to non-UKHSA labs (NHS labs and private)
- **UKHSA microbiologists** to cascade to NHS Microbiologists
- **NHS infection leads/NHS microbiologist/NHS infectious diseases** to cascade to appropriate clinical groups including Emergency Medicine, Acute Medicine and Neurology
- **Chartered Institute of Environmental Health** to cascade to members of the network
- **Royal Colleges of Physicians** to cascade to members of the network
- **Royal College of Emergency Medicine** to cascade to members of the network
- **Royal College Pathologists** to cascade to members of the network
- **Royal College of General Practitioners** to cascade to members of the network
- **British Association of Medical Aesthetic Nurses** to cascade to members of the network
- **Cosmetic Practice Standards Authority** to cascade to members of the network
- **British Neurotoxin Network** to cascade to members of the network
- **Joint Council for Cosmetic Practitioners** to cascade to members of the network
- **British College of Aesthetic Medicine** to cascade to members of the network

Summary:

UKHSA has been notified of several individuals with iatrogenic botulism linked with cosmetic procedures across England, including one large outbreak in the Northeast. The purpose of this communication is to ensure healthcare professionals are aware of the ongoing cases, the national level investigation and its association with certain brands of botulinum toxin.

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Background and Interpretation:

To date, 38 cases of iatrogenic botulism have been reported between 04 June and 14 July 2025, across four regions of England: cases have predominantly been from the North East (29), with remaining cases from North West, East of England and East Midlands. Thirty-two cases were female (84%) and 6 were male (16%), with ages between 25 and 82 years old (median 42 years).

Diagnosis is made on clinical assessment given the limitations of laboratory testing for this type of botulism. Data from 34 cases showed onset of symptoms 0-11 days after last injection with cases most frequently experiencing symptoms between Day 1-3 after last injection (n=16, 47%). The most commonly reported symptoms were ptosis or blurred vision (n=25, 68%) and difficulty swallowing (dysphagia) (n=21, 57%), with 6 requiring critical care admission for respiratory support.

Where the name of the injectable product was known to the case, most were reported to be unlicensed products manufactured in South Korea. Thirteen cases did not know the name of the injectable.

Injections were reported to have been given in a mixture of settings, including salon or clinic (n=10, 26%), practitioner's home (n=17, 45%), case's home (n=10, 26%) and an unknown setting (n=1, 3%).

The UKHSA are working closely with various external stakeholders, including Medicines and Healthcare products Regulatory Agency (MHRA), Office for Product Safety & Standards (OPSS), Local Authorities and Police, to identify the cause of these regional clusters and any links. An evaluation of practices and the trace back of botulinum toxin products involved is currently underway.

Iatrogenic botulism

Iatrogenic botulism is rare in UK but can be a severe illness that is often fatal if not treated early. The condition is caused by a therapeutic or cosmetic procedure involving the injection of botulinum neurotoxin, where excess toxin enters the bloodstream and the toxin's effects extend beyond the intended area of treatment.

The time between exposure and symptoms varies but is commonly between 3 and 8 days but can be seen as short as 1 day or up to several weeks following the procedure. It is a toxin-mediated condition and there is no person-to-person transmission.

Clinical features

Botulism is a clinical diagnosis and is characterised by an acute afebrile descending symmetrical paralysis. In iatrogenic botulism, systemic symptoms and signs presenting beyond the local sites of injection include:

- Difficulty breathing or shortness of breath
- Difficulty swallowing or talking; dysphagia to solids and/ liquids (drooling, pooling of saliva), dysarthria (slurred speech), dysphonia (hoarse voice)
- Generalised muscle weakness or fatigue

Localised adverse effects following the injection of botulinum toxin can be common and will vary dependent on the site of the procedure. Commonly reported adverse effects from injection of botulinum toxin in the face from cosmetic procedures include:

- Localised pain, swelling, redness of the injection site
- Ptosis (drooping eyelids)
- Disturbance to vision; blurred vision, diplopia (double vision), dilated pupils

- Headaches

Clinical management

A prompt diagnosis and treatment with botulinum antitoxin (BAT) to neutralise circulating toxin, together with supportive therapy and symptomatic treatment, is required in patients who present with **systemic** symptoms and signs such as difficulties in breathing, swallowing, speech and muscle weakness. Intubation and mechanical ventilation may be required in severe cases.

Localised side effects (see section above) that are not progressing in severity and not accompanied by systemic neurological symptoms would not require treatment with BAT. It may be necessary to monitor for 48 hours for further progression of symptoms and presentation of systemic neurological symptoms.

All suspected cases should be discussed in and out-of-hours with the Colindale Duty Doctor via 0208 200 4400 to consider need for treatment with BAT.

Botulism is a notifiable disease and the regional Health Protection Team needs to be informed of all suspected cases urgently by telephone (Find your local health protection team in England - GOV.UK)

Laboratory diagnosis

Iatrogenic botulism is a clinical diagnosis, laboratory diagnosis is ancillary and by the demonstration of botulinum toxin in blood (serum) samples. Where there is strong clinical suspicion of iatrogenic botulism, administration of botulism antitoxin should not be delayed.

Diagnostic samples should be taken from **symptomatic** cases:

- At least 5ml of serum taken prior to antitoxin (EDTA or haemolysed specimens cannot be tested)
- The sample must be kept refrigerated after collection
- Send the specimen to the Gastrointestinal Bacteria Reference Unit using the L5 referral form with the sender's name and address clearly marked. The reference laboratory should be telephoned prior to sending the sample. Out of office hours, laboratory personnel can be contacted through the UKHSA duty doctor on 0208 200 4400
- The assay has a low sensitivity and therefore not all samples sent to GBRU will be processed and the decision to test will be assessed on a case-by-case basis

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Implications & Recommendations for UKHSA Regions

Health Protection Teams (HPTs) may receive calls from clinicians regarding suspected cases – please direct the calls to the Colindale Duty Doctor via 0208 200 4400 to consider BAT.
For cases of iatrogenic botulism the HPTs should complete the iatrogenic botulism enhanced surveillance questionnaire and send it to Botulism@ukhsa.gov.uk.
HPTs should link the cases on CIMS to the context:
National Context Iatrogenic Botulism 2025 Record ID: 200740311.
Ongoing public health investigation and management will be undertaken between HPT and national IMT. Substantial public and media interest may arise from the incident as it evolves.

Implications & Recommendations for UKHSA sites and services

Diagnostic laboratories should be aware that they may receive samples from patients being investigated for botulism and should ensure these are sent as soon as possible by urgent courier to the Gastrointestinal Bacteria Reference Unit at Colindale.

Implications & Recommendations for NHS and diagnostic laboratories

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Diagnostic laboratories should be aware that they may receive serum samples from patients being investigated for botulism and should ensure these are sent as soon as possible by urgent courier to the Gastrointestinal Bacteria Reference Unit at Colindale.

NHS Trusts should share this notification with the relevant medical specialities, including Emergency Medicine, Acute Medicine, Neurology, and Infectious Diseases. Guidance is available for the clinical and public health management of botulism cases.

Implications and recommendations for Local Authorities

Local authorities, in particular Environmental Health and Trading Standards Teams should be aware of the incident and may be asked to support the outbreak investigation by interviewing cases, inspecting premises and taking botulinum toxin vials for testing where needed.