

insegnamento Laboratorio di Biochimica e Igiene degli Alimenti

modulo **Igiene degli Alimenti** (4 CFU)

Prof.ssa Fea

indicazioni per gli studenti

ad oggi (6/3/24) sono state programmate le lezioni seguenti:

- martedì 12 marzo 2024 orario 14-17 aula C via Acc Alb 13
- venerdì 15 marzo 2024 orario 14-17 aula 302 La Stampa
- martedì 19 marzo 2024 orario 9-13 aula B Biochimica corso Raffaello 30
- mercoledì 20 marzo 2024 orario 9-13 aula De Filippi via Acc Alb 13
- martedì 26 marzo 2024 14-17 orario 14-17 aula 8 Polo Teologico via XX Settembre
- venerdì 5 aprile 2024 14-17 orario 14-17 aula 302 La Stampa
- martedì 9 aprile 2024 14-17 orario 14-17 aula 8 Polo Teologico via XX Settembre
- venerdì 12 aprile 2024 14-17 aula A Lenti vicorso Raffaello 30



insegnamento

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**indicazioni e proposte per il proseguimento dell'attività didattica
(residuo di ore frontali ed attività di laboratorio)
e dell'organizzazione dei due esoneri**

- ❑ dopo le tre (3) ore di venerdì 12/4 dovremmo svolgere ancora 4 ore di lezione frontale che potremmo fissare il mattino di **lunedì 15/4 (9-13)** oppure il **pomeriggio di mercoledì 17/4** oppure di **venerdì 19/4** (anche in funzione della disponibilità di aule)
- ❑ le date per lo svolgimento del **primo esonero di un'ora** (parte teorica con 25 domande) e delle successive due (2) ore di lezione frontale (descrizione della matrice alimentare su cui effettueremo le analisi e delle tecniche utilizzate) potrebbero essere le seguenti:
 - ❑ lunedì 29/4 o martedì 30/4
 - ❑ mercoledì 8/5 o giovedì 9/5 o venerdì 10/5
- ❑ per quanto riguarda il **secondo esonero di durata pari a 20 minuti circa** (relativo alle attività di laboratorio) al momento non ho impegni già fissati **dal 5 al 7 giugno** oppure **dal 12 al 14 giugno**
- ❑ date per le attività di laboratorio (3 ore per lo svolgimento delle analisi + 1 ora dopo 3 giorni per la lettura dei risultati per ciascun* di voi):
 - ❑ **martedì 14-21-28 maggio 2024** tre (3) ore presumibilmente al pomeriggio (e conseguentemente **venerdì 17-24-31 maggio 2024** una (1) ora mattino o pomeriggio)



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Foodborne botulism outbreak – september 2023

RAPID COMMUNICATION

Food-borne botulism outbreak during the Rugby World Cup linked to marinated sardines in Bordeaux, France, September 2023

(ES 41)

Léa Courtot-Melcicelle¹, Marine Jauvaln², Mona Slefri¹, Renaud Prevel^{1,3}, Olivia Peuchant², Olivier Gulsset¹, Gaëlle Mourissoux¹, Laure Diancourt⁴, Christelle Mazuet⁴, Gauthier Delvallez⁴, Alexandre Boyer^{1,3}, Arthur Orleux¹

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4. National Reference Center for Anaerobic Bacteria and Botulism, Institut Pasteur, Université Paris Cité, Paris, France

RAPID COMMUNICATION

Foodborne botulism outbreak involving different nationalities during the Rugby World Cup: critical role of credit card data and rapid international cooperation, France, September 2023

(ES 47)

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4. Direction Générale de l'Alimentation (DGAL), Paris, France
5. Bordeaux Hospital Center, Bordeaux, France
6. Poison control center, Bordeaux Hospital Center, Bordeaux, France
7. Robert Koch Institute, Department of Infectious Disease Epidemiology, Berlin, Germany
8. Health Service Executive - Health Protection Surveillance Centre, Dublin, Ireland
9. United Kingdom Health Security Agency, Gastrointestinal Pathogens and Food Safety (One Health) Division, London, United Kingdom
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Foodborne botulism outbreak – september 2023

1. come viene descritto il botulismo alimentare nei due articoli?
2. quali alimenti sono generalmente implicati nella patologia?
Nell'epidemia descritta negli articoli quali sono stati i passaggi da effettuare per individuare l'alimento causa dell'epidemia?
3. come avviene la conferma della diagnosi clinica di botulismo?
4. quali analisi sono state effettuate e su quali matrici?
5. definizione di caso
6. qual è stata una delle prime attività per stabilire l'alimento coinvolto?

Foodborne botulism outbreak – september 2023 (ES 41)

TABLE

Description of botulism cases hospitalised at Bordeaux University Hospital, Bordeaux, France, September 2023 (n = 8)

Case	Symptoms					Clinical outcomes			Laboratory testing			
	Neuro-ophthalmic	Digestive	ENT	Other	Time to onset	ICU admission	Orotracheal intubation	Antitoxin administration	Serum sample ^a		Rectal or stool sample ^b	
									Date	Result	Date (sample)	Result
1	Oculomotor palsy, mydriasis, ptosis	Nausea, vomiting	Impaired swallowing	None	15 h	6 Sep, 13:00	6 Sep, 15:00	12 Sep, 08:00	7 Sep, 09:30	Positive (type B BoNT)	11 Sep, 06:00 (rectal swab)	Negative
2	Oculomotor palsy, mydriasis, ptosis	Nausea, vomiting	Impaired swallowing	None	11 h	9 Sep, 21:00	9 Sep, 22:00	11 Sep, 12:00	11 Sep, 06:40	Strong suspicion of BoNT	9 Sep, 22:30 (stool sample)	Positive (type B Cb)
3	Oculomotor palsy, mydriasis, ptosis	None	Impaired swallowing, dysphonia, dysarthria	Headache	13 h	10 Sep, 21:00	11 Sep, 10:00	11 Sep, 21:00	11 Sep, 05:00	Strong suspicion of BoNT	11 Sep, 23:00 (rectal swab)	Negative
4	Ptosis	Nausea, diarrhoea	Dysphagia	Descending paralysis, chest pain	13 h	11 Sep, 11:00	None	12 Sep, 01:00	11 Sep, 11:40	Negative	11 Sep, 16:00 (rectal swab)	Negative
5	Oculomotor palsy, mydriasis, blurry vision, ptosis	Nausea, vomiting	Impaired swallowing	Descending paralysis, respiratory distress	59 h	11 Sep, 12:00	11 Sep, 19:00	12 Sep, 08:00	12 Sep, 12:00	Positive (type B BoNT)	12 Sep, 12:00 (rectal swab)	Positive (type B Cb)
6	Oculomotor palsy, mydriasis	Diarrhoea	Dysphagia, dysphonia, dysarthria	None	39 h	11 Sep, 13:00	None	12 Sep, 8:00	11 Sep, 16:20	Negative	13 Sep, 13:00 (rectal swab)	Negative
7	Oculomotor palsy	Diarrhoea	Impaired swallowing, dysphonia, dysarthria	None	11 h	11 Sep, 15:00	13 Sep, 13:00	12 Sep, 11:00	11 Sep, 16:15	Negative	13 Sep, 11:00 (rectal swab)	Positive (type B Cb)
8	Oculomotor palsy, mydriasis, blurry vision, ptosis	Nausea, vomiting	Impaired swallowing, dysphonia, dysarthria	None	18 h	12 Sep, 02:30	12 Sep, 16:00	12 Sep, 12:00	12 Sep, 02:30	Strong suspicion of BoNT	12 Sep, 02:30 (stool sample)	Positive (type B Cb)

BoNT: botulinum neurotoxin; Cb: *Clostridium botulinum*; ENT: ear, nose, throat; ICU: intensive care unit.

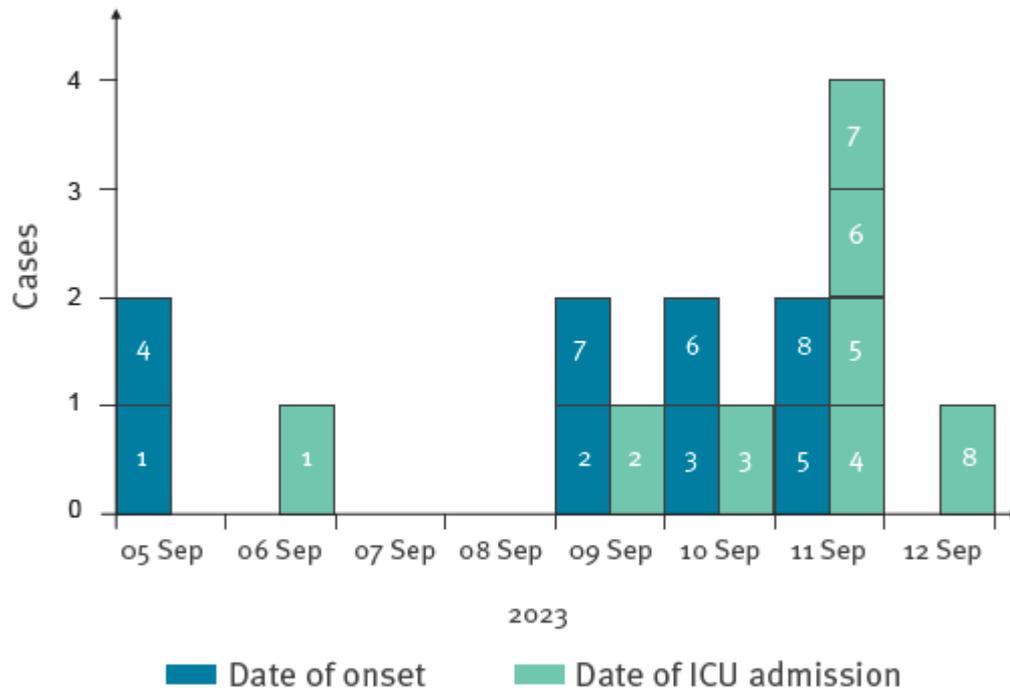
^a Detection of botulinum neurotoxin (BoNT) was confirmed using a mouse bioassay (intraperitoneal administration of patient serum to mice) [2]. BoNT serotype was determined by neutralisation of toxicity in mice by serotype-specific antibodies. Strong suspicion of BoNT indicates that patient sera caused toxic activity in the mouse bioassay, but positivity could not be confirmed by seroneutralisation.

^b Detection and characterisation of *Clostridium botulinum* was performed by real-time PCR targeting BoNT-producing clostridia [3], with enrichment culture on stool samples or rectal swabs.

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FIGURE 1

Botulism cases by date of symptom onset and intensive care unit admission, Bordeaux University Hospital, Bordeaux, France, September 2023 (n = 8)



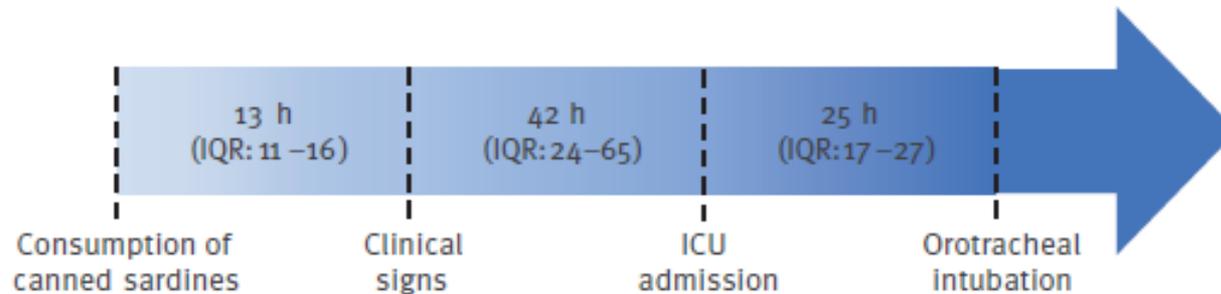
ICU: intensive care unit.

Numbers 1–8 correspond to the eight cases described in the Table.

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FIGURE 2

Temporal representation of botulinum toxin infection and course of treatment in cases hospitalised at Bordeaux University Hospital, Bordeaux, France, September 2023 (n = 8)



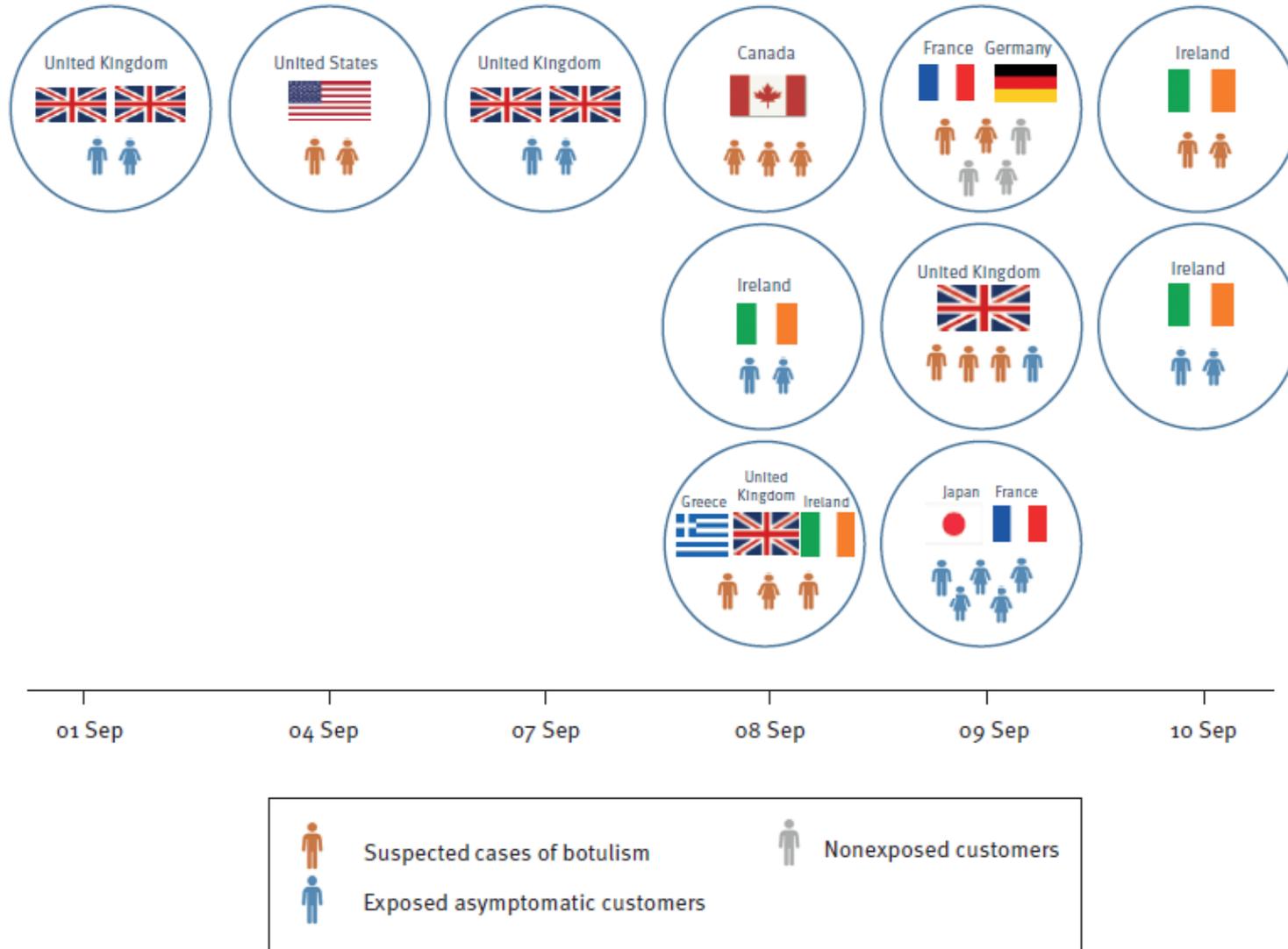
ICU: intensive care unit; IQR: interquartile range.

As on 12 October 2023, the median time of hospitalisation was 18 days (IQR: 8–21) and two patients still required invasive mechanical ventilation.

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FIGURE 1

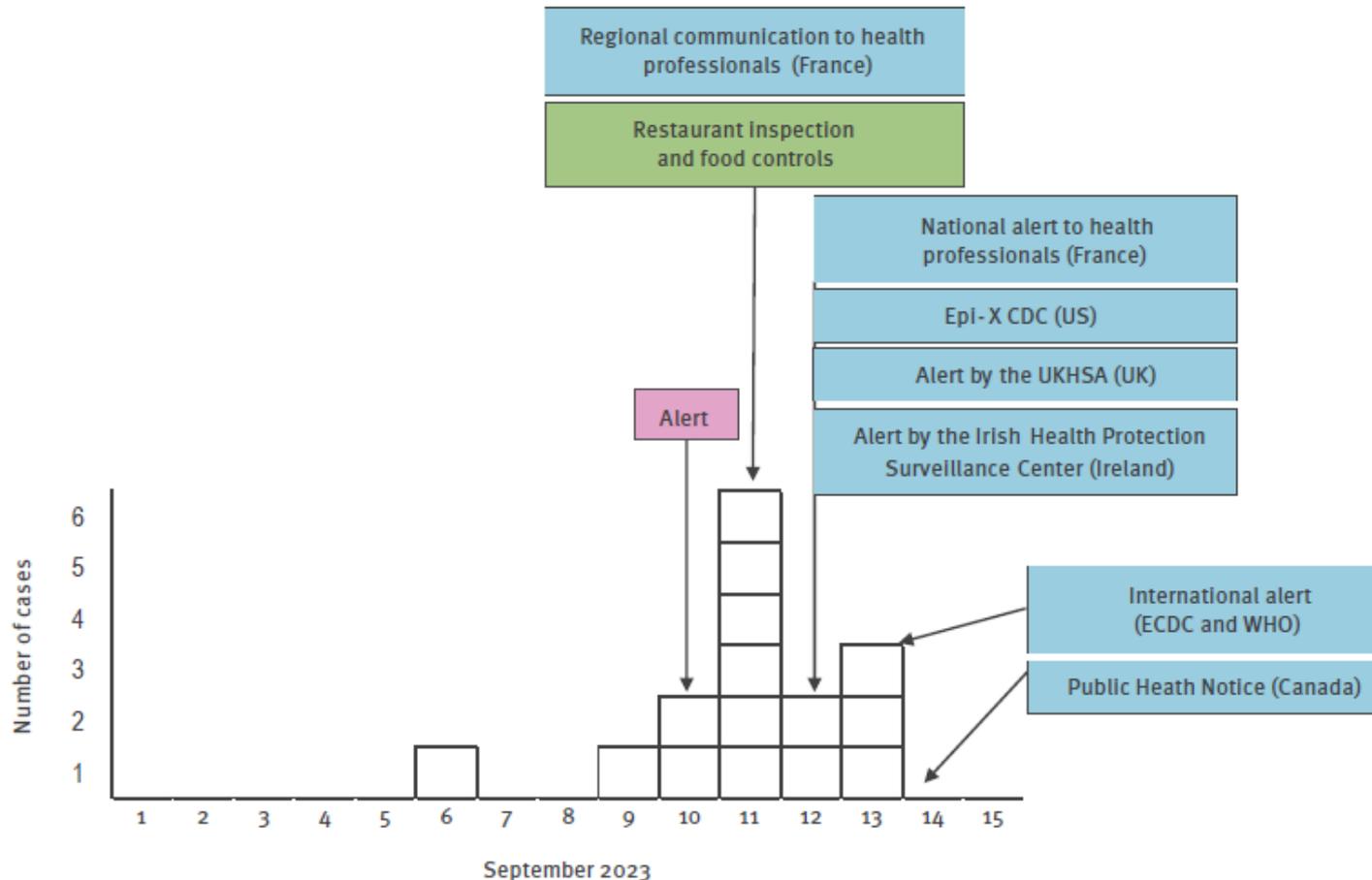
Identification of persons visiting and ordering or consuming canned sardines at Restaurant A, Bordeaux, France, 1–10 September 2023 (n = 32)



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FIGURE 2

Timeline of consultation or hospitalisation of cases of botulism, outbreak control measures and communication, France, September 2023 (n = 15)



ECDC: European Centre for Disease Prevention and Control; Epi-X CDC: Epidemic Information Exchange of the Centers for Disease Control and Prevention; UK: United Kingdom; UKHSA: United Kingdom Health Security Agency; US: United States of America; WHO: World Health Organization.

Epi-X is a secure, web-based network for information exchange.