

**Introduction:** This is a short toolbox talk to give you some information on *E. coli* bacteraemia. Use this toolbox talk to share information at huddles, safety briefs and meetings to introduce changes and increase awareness with your staff.

### **What is *E. coli*?**

*Escherichia coli* is a bacteria that is commonly found in the intestines of humans and animals. *E. coli* can easily be transferred from faecal matter to the urethral opening, especially in females and to urinary catheters.

### **What is an *E. coli* bacteraemia (ECB)?**

*E. coli* is one of the most predominant organisms of the gut flora, and for the last several years the incidence of *E. coli* isolated from blood cultures (blood stream infection) has increased to the point that it is the most frequently isolated organism in the UK. The most common cause of *E. coli* bacteraemia (ECB) is from complications arising from intra-abdominal infections, urinary tract infections (UTIs) and infections associated with urinary catheters.

### **What are the risk factors for developing an ECB?**

Risk factors for an ECB include surgery, urinary tract infections and invasive devices, most commonly urinary catheters. Urinary catheters account for approximately 30% of ECBs in Scotland.

In February 2021, urinary catheters were associated with 24 % of all healthcare associated cases of ECB.

### **How is the source of an ECB investigated?**

Investigations may be required to find the source of the infection e.g. urine specimens, wound swabs. Patients may also require imaging.

Common sources of ECB include intra-abdominal, urine, invasive devices most commonly urinary catheters and skin/soft tissue/wounds.

### **How is an ECB treated?**

Treatment of an ECB is dependent of the source of infection. This would usually be Gentamycin empirically followed by the narrowest spectrum antibiotic. Treatment is guided by antibiotic sensitivity. Duration of treatment is usually a minimum of 5 to 7 days of IV therapy.

Source control can include removal of invasive devices.

### **Adverse Patient Outcomes**

ECB is a leading cause of bacteraemia and is associated with a case fatality rate of 14% of cases.

## **Local and National Approach to ECB**

The Infection Prevention and Control Team (IPCT) carry out mandatory ECB surveillance which is reportable to Antimicrobial Resistant and Healthcare Associated Infection Scotland (ARHAI) quarterly.

### **What can you do to prevent *E.coli* bacteraemias?**

- Compliance with hand hygiene, including 5 key moments and 12 steps for hand hygiene
- Adherence to invasive device insertion and maintenance criteria and ensure documentation is kept up to date
- Remove invasive devices as soon as they are no longer required
- Skin, soft tissue and wound care
- Encourage patients with hand hygiene
- Encourage patients with fluid intake to keep them hydrated
- Provide patients who have invasive devices with infection prevention advice and patient information leaflet

### **Teachback Questions**

1. What are the risk factors for developing an *E. coli* bacteraemia?
2. What are the adverse patient outcomes following an *E. coli* bacteraemia?
3. What patient investigations may be carried out to identify the source of an *E. coli* bacteraemia?
4. How can you prevent a patient developing an *E. coli* bacteraemia?