O265

2-hour Oral Session

Dealing with Clostridium difficile

Variability in testing policies and impact on *Clostridium difficile* infection rates; first report from the longitudinal European *Clostridium difficile* Infection Diagnosis Surveillance study (LuCID)

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Objectives

To use a systematic, prospective large scale sampling approach, to investigate variability in C. difficile testing and positivity according to place and time. To describe the profile of healthcare associated C. difficile infection (CDI) patients and the timing of the onset of disease.

Methods

Twenty healthcare institutions in each of three countries (France, Italy and UK) provided data on size and type of institution, C. difficile testing methodology, number of tests performed each month and demographics of CDI positive patients (as defined locally). Testing practices and case profiles were compared between countries and different sized institutions

Results

For April-August 2014, institution data were available for 54/60 hospitals; seven were classified as small (<100,000 patient bed days per annum (pbds)), 38 as medium (100,000-500,000 pbds) and nine as large (>500,000 pbds). Eight were acute facilities, 15 secondary, 28 tertiary and three were specialist centres. To diagnose CDI 38/54 (70.4%) used a recommended testing algorithm. Small institutions were more likely to use toxin detection alone for CDI diagnosis (2/7, 29%) compared with medium (3/38, 8%) and large (1/9, 11%) institutions, although this was non-significant (Kruskal-Wallis p=0.69).

French hospitals represented 425444.1 pbds per annum, Italy 159593.8, UK 304296.5. There was a significant difference between the average number of samples tested for CDI at each institution per month between countries; 124.3 samples in France, 55.3 Italy, 276.1 UK (ANOVA p=<0.0001). The average positivity rate of patients tested for CDI per institution was 11.5% for France, 14.0% for Italy and 3.6% for the UK.

There were 2456 CDI cases (42.1% in France, 28.8% Italy, 29.0% UK), 79.3% of which were first episodes. The median age of cases was 74 (IQR 60-84) with more cases in females (1363/2456, 55.5%). The average number of CDI cases per month was 44.3, with a significant difference between the average number of cases per month between countries; 55.1 in France, 37.7 Italy, 40.1 UK, (ANOVA p=0.0001).

Patients were tested earlier for CDI in the UK than the other countries; UK median two days after admission (IQR 0-11.25), France six days (IQR 1-20), Italy nine days (IQR 2-20), (Kruskal-Wallis p=<0.0001). There was no difference however between the countries for the sample processing time.

Conclusion

There are still a wide variety of CDI testing practices used in European healthcare institutions despite European guidelines, with significant differences in the level of testing and number of cases between countries. The UK had the lowest CDI rate even though they performed significantly more tests than both the other countries, in hospitals representing twice as many pbds per annum than Italian hospitals. Tests for CDI were also performed earlier on patients in the UK, perhaps due to a higher level of clinical suspicion.