**Purpose**

To evaluate the incidence of C. difficile (C. diff) that has occurred within the HCA Continental Division after a patient has received only antibiotics for surgical prophylaxis.

**Background**

Antibiotic surgical prophylaxis is often necessary to prevent infection but the benefit of antibiotics must be weighed against the risks which include *Clostridium difficile* infection (CDI). Previous studies that have evaluated the incidence of CDI in surgical patients have shown that the rates are increasing. Infection with CDI has been shown to be an independent predictor of increased length of stay, costs and mortality rates.

Multiple studies have indicated that C. difficile may be caused by a single dose of antibiotic but it has a higher risk with prolonged use of antibiotics. Many like to consider extra doses of antibiotic prophylaxis as “being safe” but it may be increasing the risk of CDI and resistant organisms.

New surgical prophylaxis guidelines recommend discontinuation of antibiotics at incision closure. One potential advantage to decreasing unnecessary antibiotics is the reduction of CDI. However, it is unclear how much of our current CDI is related to surgical prophylaxis.

**Methods**

We performed a multi-center observational evaluation of eight hospitals in two states.

Using facility surgical schedules and cross-referencing them with the National Healthcare Safety Network (NHSN) CDI database, a nine-month time period was evaluated for patients who underwent surgery and developed CDI within 30 days post-op.

Patients were excluded if they had CDI diagnosed prior to surgery or if they received antibiotics other than those used for pre or post-op prophylaxis.

**Results**

During the study period 31,904 inpatient surgeries were performed and a total of 720 CDI cases occurred; 313 community onset (CO) and 416 hospital onset (HO) or community onset healthcare facility associated (CO-HCFA).

**Discussion**

In our multi-center evaluation, we observed that 6% of all CDI occurred following the use of antibiotics for surgical prophylaxis as their only predisposing antibiotic exposure. While surgical patients often have a complicated hospitalization and receive multiple courses of antibiotics making it difficult to determine the true amount of CDI that is related to surgical prophylaxis, this was not the case in these patients. The development of CDI, with the use of routine, guideline driven antibiotic prophylaxis as the only antibiotic exposure, is concerning. Prophylactic antibiotic use should be limited to that which has been proven to benefit the patient.

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**Disclosures**

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