USE OF INTRAVENOUS ANTIBIOTICS IN AN INPATIENT HOSPICE

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BACKGROUND

Approximately one-quarter of hospice patients receive antibiotics during the final weeks of life.[1] The goals of antibiotics are for life prolongation and symptom control, however the effectiveness and benefits of antibiotics in these patients is unknown. Adverse outcomes of antibiotics include medication side effects, increased risk of opportunistic infections, prolongation of the dying process and development of multidrug-resistant organisms.

METHOD

A retrospective review of medical records was conducted for all Assisi hospice inpatients who received intravenous antibiotics (IVAB) between 1st December 2018 and 30th November 2019.

RESULTS

Over one year, eighteen patients received IVAB and data was collected for all. Table 1 shows the characteristics of the patients. Fourteen patients (77.8%) had a prognosis of 2 to 3 months, while the remaining had a prognosis of 1 to 7 weeks. Seventeen out of 18 (94.4%) patients had a cancer diagnosis.

Eleven out of 18 patients (61.1%) did not receive oral antibiotics prior to commencement of IVAB. The main indications for antibiotics were chest infection (44%), fever with unclear source (22%) and urinary tract infection (16.7%) as shown in Table 2. Eleven patients (61.1%) had complications such as difficulty in re-siting cannula and refusal of cannula reinsertion. (See Table 3) Over half the patients failed to complete the course of antibiotics, having received it for 3 days or less, and over a quarter (27.8%) demised while on IVAB. (See Tables 4 & 5)

Table 1: Characteristics of patients

Age (years)		
Mean	67.9 ±10.5	
Gender	**n**	**%**
Male	6	33.3
Female	12	66.7
Prognosis		
1-7 weeks	4	22.2
2-3 months	14	77.8
Diagnosis		
Cancer	17	94.4
Non cancer	1	5.6
Functional status (AKPS/PPS) at admission		
≤ 40	12	66.7
≥ 50	5	27.8
Not documented	1	5.6
Functional status (AKPS/PPS) at start of antibiotic		
≤ 40	14	77.8
≥ 50	3	16.7
Not documented	1	5.6
Was ACP completed?		
Yes	9	50.0

Table 2: Indications for IVAB

Indications	No of patients
Fever with unclear source	4/18 (22.2%)
Chest infection	8/18 (44.4%)
Urinary Tract Infection	3/18 (16.7%)
Abscess	2/18 (11.1%)
Prophylaxis post procedure	1/18 (5.6%)

Table 3: Complications after starting antibiotics

Were there any complications?	**No of patients**	**%**
No	7	38.9
Yes	11	61.1
List of the complications		
1) Difficulty in resiting cannula	4	36.4
2) Not tolerating/ refusal of cannula	3	27.3
3) Clinically not responding to antibiotics	2	18.2
4) Stopped due to massive bleed post incision and drainage of abscess	1	9.1
5) IV dislodged on day 2 and IVAB stopped. Not stepped down.	1	9.1

Table 4: Number of days of IVAB received

Duration of IVAB (days)	No of patients	%
1	4	22.2
2	5	27.8
3	1	5.6
≥ 4	8	44.4

Table 5: Number of days from IVAB cessation to demise

Number of days	No of patients	%
0	5	27.8
1-3	3	16.7
4-6	0	0.0
7-14	4	22.2
≥15	6	33.3

DISCUSSION

Hospice patients are often prescribed empirical antibiotics based on clinical assessment without confirmatory imaging studies or laboratory tests. The decision to prescribe parenteral antibiotics is dependent on the clinician and influenced by patient factors such as severity of symptoms, being acutely unwell and ability to swallow medications[2]. Previous studies have shown that patients symptomatic from a urinary tract infection and respiratory tract infections had a response rate to antibiotics of 60-92% and 0-53% respectively[3]. However, in our audit, 22.2% of patients received IVAB for a fever with an unclear source. These patients may have inadequate clinical evidence of a bacterial infection requiring treatment, and treatment may add further burden and not yield a response to therapy. Complications relating to cannula were present in 7 out of 11 (63.6%) where it was difficult to obtain venous access, patients did not tolerate or refused re-siting of cannula. This is an important consideration prior to the prescription of parenteral antibiotics. It is of utmost importance to address the role of antibiotic therapy and align it with the goals of care – such as symptom relief, or life prolongation, prior to the commencement of antibiotics. Study by Givens et al. showed that antibiotics may prolong survival in patients with advanced dementia and suspected dementia, but not improve comfort[4]. Hence, where the main aim of care is comfort, antibiotic therapy should be considered on a case-by-case basis..

CONCLUSION

The role and benefits of intravenous antibiotics in patients with a short prognosis were unclear, whilst complication rates were high. Decisions regarding IVAB should be made carefully taking into consideration the goals of care, prognosis, potential benefits and possible harm. Further research is required to improve current evidence for the use of IVAB in hospice patients.

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