CASE REPORT

Palliative care conundrums in an Ebola treatment centre

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SUMMARY

We describe the treatment course and last days of a 33-year-old man from Western Africa who died from Ebola-related complications. Specifically, the issues around declaring a patient palliative in a low resource environment while dealing with a largely unknown entity, Ebola viral disease, make this an important discussion-stimulating case. The patient presented as a confirmed Ebola-positive case from a peripheral holding centre and then proceeded to deteriorate under our care. Significant neurological decline was noted and the prognosis was felt to be grim by certain providers. Other providers disagreed and a number of treatment algorithms were started and stopped during the patient's last days. He succumbed to Ebola complications after 17 days under our care.

BACKGROUND

The importance of excellent palliative care is a vitally important aspect of cradle to grave care of the patient. A 'good death' is now the expected standard of care in the developed world. This case illustrates many of the conflicts and ethical issues that can arise when multiple care givers are providing care in an austere and unique environment, specifically, an Ebola Treatment Centre (ETC).

CASE PRESENTATION

A 33-year-old man, attended our ETC in January 2015, following a positive PCR Ebola test at a holding unit 2 days previously. He had prior-known Ebola contacts consisting of his father and uncle, both of whom died of Ebola in late December. He had no medical history and was not on any regular medication; he had no known drug allergies.

The patient's presenting symptoms were a 5-day history of fever, conjunctivitis, odynophagia, diarrhoea, abdominal pain, myalgia with intense lethargy, headache and hiccups. On admission, he was alert, with a respiratory rate of 20 breaths/min, a heart rate of 80 bpm, blood pressure 98/72 mm Hg and temperature of 38.6°C. He was started on intravenous fluid therapy of 5 L of Ringers Lactate per 24 h, and started on intravenous ceftriaxone, multivitamins and regular analgesia (paracetamol).

Over the next 6 days, the patient continued to be symptomatic of Ebola viral disease, which consisted of ongoing diarrhoea, lethargy, throat pain, chest pain and vomiting. Oromorph was added to his analgesia regime and intravenous fluid therapy was continued. He completed his 7-day course of ceftriaxone, but due to the continuing diarrhoea, he was started on metronidazole. On the seventh day of admission, the patient looked relatively well and was denying any symptoms despite his vital signs being abnormal: respiratory rate 20 breaths/min, heart rate 130 bpm, blood pressure 119/68 mm Hg and temperature 38.6°C.

On day 8, the patient was found to be confused, with a deterioration in urea and creatinine parameters. He appeared dehydrated and an increase in oral and intravenous intake was started. A repeat malaria rapid diagnostic test was performed, which came back negative. The initial impression was a sepsis of unknown origin. On days 9 and 10, the patient continued to deteriorate and was unable to swallow paracetamol, so intravenous paracetamol was given instead. He became increasingly weak and was not eating or drinking at all, even with assistance. He continued to be tachycardic (122) with the presence of ankle oedema, a new finding. He was started on flucloxacillin due to a soft tissue infection and 5% glucose due to his high sodium and rising creatinine along with decreased oral intake.

On day 11, the patient was found lying on a mattress on the floor, with seizure-like activity occurring in all four limbs. He was unresponsive to voice, with a minimal response to sternal rub, Glasgow Coma Scale (GCS) score 8 (E1, V2 M5). He had positive Brudzinski's and Kernig's signs. It was decided to give him diazepam for his status epilepticus and intravenous ceftriaxone 2 g (meningitis dose) for possible meningitis/encephalitis. Interestingly, the patient had had a positive Ebola PCR CT of 17.4 on admission, which had changed to a PCR CT of 32.4 on this day. CT is inversely proportional to viral load with Ebola-negative PCR CT >33. The patient was on the cusp of being declared Ebola negative while deteriorating rapidly along with seizure activity.

Over the next few days, the patient continued to deteriorate, his GCS decreased to 4 (E1 V2 M1), his pupils were 2 mm/2 mm and non-reactive, he was responding only with a slight grimace to a trapezium squeeze, groaning, and had a divergent squint/disconjugated gaze with copious secretions from the mouth. Morphine was added to his management plan and he was deemed a palliative care patient by the treating physician on that shift. On discussion with the clinical director by the next treating physician, it was decided to continue active treatment for possible meningitis, as patients the clinical director had seen in similar states while being Ebola positive had survived.[1 2] Dexamethasone was not included in the treatment due to low likelihood of pneumococcal meningitis and HIV-negative status.

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Table 1 Laboratory Results

Date	Day 1	Day 2	Day 5	Day 9	Day 10	Day 14	Day 18
Hb, g/dL	18.6		16.3	15.6	14.6	13.7	12.5
WCC, ×10/L	14.9		13.6	6.8	4.9	7.9	15.4
Urea, mmol/L		16.5	7.1	12.6	9.5	5.9	12.0
Creatinine, µmol/L		230	114	235	152	82	163
CK, U/L		4682	1947	3651	4568	>5000	3135
AST, U/L		>2000	>1721	239	252	245	268
ALT, U/L		>2000	814	261	213	139	110
Na, mmol/L		145	133	145	142	141	148
K, mmol/L		NR	3.5	3.8	3.8	4.8	6.3
CRP, mg/L		48	80	81	53	24	>200

ALT, alanine aminotransferase; AST, aspartate aminotransferase; CK, creatine kinase; CRP, C reactive protein; Hb, haemoglobin; NR, not reported; WCC, white cell count.

Despite active treatment, the patient's condition remained poor: respiratory rate 27 breaths/min, oxygen saturations 79%, tachycardia 136, blood pressure 115/80 mm Hg, GCS 3 and temperature 38.0°C. He developed a pressure sore on the right buttock and had become progressively oedematous on the face, hands and feet. He was still passing urine and had active diarrhoea. Palliative care at this stage had been agreed on by all involved in his care. Additional pressure sores had been identified and regular turning was encouraged. The haematological results obtained during his stay are detailed in table 1.

On day 18 after admission to our ETC, the patient was found to be deceased.

DIFFERENTIAL DIAGNOSIS

The patient was found to have a positive Ebola test by PCR testing in a holding centre and was transferred with that diagnosis to the ETC. Discussion about further diagnoses related to his deterioration was limited by the diagnostic capabilities in the ETC, but included meningitis and encephalitis.

TREATMENT

The ETC staffing operated on a three shift per day rota with two 6 h shifts during the day and a 12 h shift at night. Clinical decisions were made by physicians from multiple countries and of multiple specialities. There was a clinical director in charge of the hospital, but clear delineation of the chains of responsibility for clinical decisions was not apparent. Largely, decisions were made by consensus and passed on to the next shift during handover.

Treatment options in the case of this patient were related to making the decision of when to declare him a palliative patient. Initial notes and discussion declared him terminal on day 12 with notation stating 'Patient is terminal…Aim is to keep comfortable'. The next day, a discussion was held with the attending physicians on the next shift along with the clinical director, and it was decided to continue with active treatment of a query meningitis with the expectation that the patient might recover based on the prior experience of the clinical director in other Ebola outbreaks. Over the next 3 days, the patient was seen by over six different physicians, who decided to start phenytoin for a possible status epilepticus, to continue intravenous fluids, to continue antibiotics and to stop other medications.

The multiplicity of providers and the limited space for discussion about the individual case caused a large degree of discontent through the group of caregivers. Many were of the mind that treatment was futile as was lengthening the pain and suffering the patient was undergoing. These clinical thoughts were made doubly difficult through the fact that not only were the clinicians dealing with predicting death but they were also dealing with a new clinical entity, that of the course of terminal Ebola, with a dearth of literature to guide their decision-making.

OUTCOME AND FOLLOW-UP

The patient died of Ebola-related complications while in the ETC.

DISCUSSION

To the best of our knowledge, there are no other published case studies on palliative care in an ETC.

In the ETC, there were strict admission criteria for patients and patient management protocols on opening of the hospital. Owing to the severity of the outbreak and the high death toll, the emphasis placed on saving lives and any protocols specific to palliative care were not implemented. Care providers would implement their own palliative care in the manner in which they were taught and of which they were knowledgeable. In terms of provision of full care versus palliative care in the present case, full care would have involved more aggressive intravenous therapy, continuation of antiseizure medication, steroids, intravenous fluid therapy, increased monitoring of haematological parameters and possible radiological scans after the patient was found to be Ebola negative.

Learning points

- Communication is paramount in an environment where there are multiple caregivers.
- A lead decision maker, or clinical leader, is helpful.
- Austere circumstances are not an excuse to not provide high-quality end-of-life care.[3]
- When deploying a low-resource emergency situation to a developing world, some knowledge of the basics of palliative care are essential.[4–6]

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