Pregnancy complicated by haemorrhagic ascites in a woman with newly diagnosed HIV

Catrin Morgan,¹ Kate Nicholls,¹ Nusraat Gangat,² Stafford Sansome¹

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A young pregnant Zambian woman was referred from a district hospital in South Zambia to the university teaching hospital, Lusaka with severe anaemia and ascites. The ascites had developed over a month and the woman was currently 15 weeks pregnant. Further workup revealed that the patient was HIV-positive and the ascitic tap showed haemorrhagic fluid. After being reviewed by multiple doctors, the cause of the haemorrhagic ascites remained unclear; therefore, the decision was made to do a laparotomy. The laparotomy revealed haemoperitoneum and a large cyst attached to the liver containing 5 L of bloodstained fluid. The histopathology report revealed features consistent with a giant haemangioma. There were many barriers to accessing optimum healthcare in this case. These included limited access to blood, poor communication resulting in the patient being unaware of her HIV status and lack of patient education about HIV.

A 24-year-old pregnant Zambian woman (Gravida 3, Para 2) at 15 weeks gestation presented with a month's history of ascites. She was otherwise asymptomatic. She initially presented to a rural district hospital, 120 km from Lusaka, and was found to have a haemoglobin concentration of 4.6 g/dL. However, her observations were stable. On examination, the abdomen was symmetrically distended with gross ascites; it was difficult to palpate the liver and spleen and bowel sounds were present. All other clinical examinations, including respiratory and cardiovascular, were normal. Owing to her low haemoglobin concentration, she was transfused one unit of blood. During routine testing, she was found to be HIV-positive but not started on anti-retroviral therapy; the patient was unaware of her status. Full blood count, urea and electrolytes as well as liver function tests were also carried out, but these results were not available on arrival at university teaching hospital (UTH).

revealed haemorrhagic fluid. This was sent for cytology; however, the results were not returned. During her time at UTH, she was due to start anti-retroviral therapy; however, the doctors were not informed that she was unaware of her status and the patient was then referred for HIV counselling. A chest X-ray showed an enlarged aortic shadow with clear costophrenic angles and lung fields.

An ultrasound scan was performed which showed marked free fluid, internal echoes and thick septation filling the upper abdomen (see [figure 1](#)). There was a single live intrauterine pregnancy with an active fetus. The placenta was in the posterior upper aspect of the uterus and there was adequate amniotic fluid. The patient was under the obstetrics and gynaecology team but was also reviewed by the internal medicine physicians. The physicians' top differential diagnosis was tuberculosis; however, owing to diagnostic uncertainty, a decision was made to do an explorative laparotomy. To ensure that the patient was fit for theatre, four units of blood were transfused preoperatively.

The patient underwent a 2 hour and 50 min laparotomy. The gynaecological surgeons intended to carry out the surgery. However, after doing a midline incision, a haemoperitoneum and a large mass was revealed which appeared to be attached to the liver; therefore, the general surgeons were called to assist. The laparotomy exposed a huge cyst which was adherent to the inferior surface of the right lobe of the liver (see [figure 2](#)). This cyst was drained using suction (see [figure 3](#)) and it contained ~5 L of blood-stained fluid. The main body of the cyst was excised (see [figure 4](#)) and a drain was left in situ. The specimen was sent to histopathology (see [figure 5](#)). The total blood loss during the operation was estimated at

Figure 1 An abdominal ultrasound image of the patient showing septation.

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Figure 2 An intraoperative image showing the fluid-filled cyst.

Figure 4 An intraoperative image showing the drained cyst still attached to the liver.

Figure 3 An intraoperative image showing the cyst being drained via suction.

Figure 5 An image showing the excised specimen.

6.5 L. This included the contents of the cyst, the haemoperitoneum and bleeding during the operation (see [figure 6](#)); three units of blood were transfused intraoperatively. After the operation, the patient was transferred to the intensive care unit. She made a remarkable recovery and the histopathology report revealed a cyst measuring 21 cm×18 cm×4 cm with features consistent with a giant haemangioma.

GLOBAL HEALTH PROBLEM LIST

- ▶ People of low socioeconomic status are more likely to present at a later stage of illness.
- ▶ Patients from low socioeconomic status are less likely to be educated and aware of HIV.
- ▶ Poor access to blood products and lack of blood is a barrier to healthcare across developing countries.
- ▶ Poor communication among healthcare providers working in different regions results in miscommunication of patient information, compromising patient care.

GLOBAL HEALTH PROBLEM ANALYSIS

Socioeconomic status (SES) has been shown to be a factor when it comes to illness presentation. Studies have shown that low-income countries are more likely to have an advanced stage of disease diagnosis.¹ Patients from a low SES have been found to have inadequate knowledge of their medical condition and

Figure 6 An image showing the total blood loss during the operation.

ability to recognise and act on emerging health problems.² A study across Kenya, Tanzania and Zambia revealed less health-care centre use at childbirth among women with a low SES and in rural areas. In one rural area, the childbirth facility was used by 15% in comparison to 75% in an urban area.³ The patient in this case was from both a rural area and of low SES and took 1 month to present to her local hospital despite alarming clinical signs. Therefore, this demonstrates the constant issue surrounding health inequality and SES in developing countries.

Research has suggested that SES affects the possibility of contracting HIV. Low SES and lack of education has been shown to increase the practice of risky sexual behaviours, which may lead to the person contracting the virus.⁴ A strategy used by some HIV prevention programmes in Africa is to empower patients with HIV, in particular women. The aim of these programmes is not just HIV prevention but to allow women to become more financially independent through a loan scheme.⁵ Low income may make women more vulnerable to putting themselves into risky situations. It has also been shown that those people with low income are more likely to live in unstable housing, which has been linked to a 2–4 times increased risk of HIV infection.⁶ These programmes, such as the empowerment of women and the introduction of loan schemes, were not available to the patient in this case. Nevertheless, this patient would have been likely to benefit from such programmes. This highlights the importance of ensuring that these programmes are widely available, allowing as many women as possible to benefit from them.

There is conflicting evidence in the literature regarding the link between education and HIV. A large review in 2008 found that HIV and education were positively associated in earlier years; however, the disease burden now falls disproportionately on the less educated.⁶ A study in Uganda reported that better educated girls were more able to take steps to protect themselves against HIV, such as using condoms.⁷ A pivotal study recently published in the *Lancet* concluded that increasing access to education in low-income countries is extremely important due to the proven economic return. This includes the potential role in HIV and child mortality. It showed that individuals who had an additional year of school were 8.1% less likely to test positive for HIV a decade later.⁸ The patient in this case was illiterate, unemployed and uneducated. This highlights the important link between education, income and risk of HIV infection and how improving these factors may lead to a reduction in HIV infection.

Rapid availability of safe blood products is essential across the world. Unfortunately, however, this is often not the case in less

developed countries. Similar challenges are faced globally in the recruitment of blood donors, particularly those of rare blood types.⁹ However, cost, training of laboratory staff and the testing of blood for transmitted infections are more of an issue in less developed countries due to inadequate resources.⁹ A strong drive in the USA has caused the number of cases of hepatitis transmission through blood transfusion to drop from 1 in 4 in the 1960s to almost zero, making the US blood transfusion service one of the safest globally.¹⁰ In contrast, blood transfusions were poorly developed in Sub-Saharan Africa until the 1980s.¹¹ Multiple factors including culture and a lack of education meant that African people would not contemplate donating their blood to an unknown person through the blood bank.¹² This has resulted in the WHO failing to meet their desired aim to have 80% of blood collected through voluntary and non-remunerated blood donation by 2012.¹³ In this same year, the figure stood at 75–80% of blood donations in Africa being from relatives, falling well below the WHO's target.¹⁴ In this case, availability of blood was an obstacle to providing optimum patient care and led to delays in operating and managing the patient. Overcoming the cultural barriers and attitudes towards donating blood would improve both the quality of care for this patient and the care of patients across all medical and surgical specialties.

Comorbidities also play a large part in selection of blood donors, which is particularly important in Africa where recruitment is aimed at a population with a low HIV-seroprevalence.¹⁵ The prevalence of anaemia and infectious diseases, which are often prohibitive factors to donation, is higher in Africa than in the western world, which could act as an additional factor for the lower rates of blood donation.¹⁴ Nevertheless, Asia still has a 29% seroprevalence of toxoplasmosis immunoglobulins in blood transfusions.¹⁶ Clearly, the western world is further ahead with the provision of blood transfusions. However, the setting of the WHO targets, acting to improve safety and reliability of transfusions, is a step in the right direction for Africa.

Miscommunication of patient information can occur both between health professionals and between the patient and the doctor. This is one of the most simple and preventable aspects of healthcare that can cause harm to a patient. Miscommunication can occur in multiple settings, the operating theatre, during transition of care, at handover between health professionals' shifts and when communicating diagnoses to patients, as seen in this patient.^{17 18} Complex working environments with an excess of patients, time pressures and professional jargon can all precipitate problems with communication, as can language barriers.¹⁹ In Zambia, there are over 60 different dialects, where misunderstandings and poor communication can easily occur. In this case, the patient spoke a dialect from a rural region that the healthcare workers in the hospital were unfamiliar with, leading to crucial miscommunications. It is not just the developing countries that are experiencing a difficulty with language barriers. Australia is a prime example of where English and Chinese interactions with either the patient or the doctor using these dialects as a second language can lead to a poor explanation of the risks associated with a diagnosis. This leads to an increased number of misunderstandings during the consultation.²⁰

In some parts of England, there have been measures to introduce an electronic handover system after acknowledging that poor communication during handover has led to compromise of patient care and increased workload for the staff.¹⁸ Although systems remain paper-based in most parts of Sub-Saharan Africa, there is still awareness of the need for good communication

between those in primary health services and local communities, which is facilitated by the important work of community health workers.²¹

Patient's perspective

The Patient's perspective was unable to be obtained due to the patient and their family being unable to speak English. The patient spoke a local dialect found in the south of the country that even the doctors in the capital struggled to understand.

Learning points

- ▶ Doctor–patient communication is a fundamental part of medicine and miscommunication can lead to suboptimal care and patient distress. There is the need for provision of adequate financing for interpreters.
- ▶ Patients from a low socioeconomic status are more likely to be less educated, present in later stages of illness and at increased risk of HIV transmission.
- ▶ Rapid access to blood products when required is crucial for optimal patient care across the world; however, a barrier still remains across Sub-Saharan Africa.

Competing interests None declared.

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