Mortality Review: Intrauterine Fetal Demise

Note: This case is part of the regular mortality reviews that Nyaya Health conducts. The rationale behind these reviews is that death is the ultimate arbiter of epidemiological truth and that every death in the catchment area, even if apparently not related to care provided at the clinic, should be reviewed by the staff team. The reports of death will be compiled by staff members and by CHWs. Deaths are analyzed by their proximate causes, as well as their biological, structural, and societal precursors.

Brief Assessment
A 30 year old pregnant woman at 30 weeks gestational age was carried into Bayalpata Hospital Emergency Department with high grade fever for 6 days followed by icterus, altered sensorioum and loss of consciousness. The family members who brought her could not provide other significant history; all that they knew was that the disease had been progressive and her condition had been worsening day by day .

On arrival, she was tachypneic with a respiratory rate of 36 breaths per minute and tachycardic with a heart rate of 120 beats per minute. Her blood pressure was 100/70 millimeters of mercury. She was unconscious. Her physical examination was notable for scleral icterus and reactive pupils. She did not have notable neck rigidity or skin findings. Her chest and heart examination was unremarkable. Fetal heart sounds were not audible.

She was treated for possible sepsis, leptospirosis, or infective hepatitis with ceftriaxone, hydrocortisone, intravenous fluids, and oxygen.

On laboratory examination, her total white blood count was 16,500 cells per microliter and hematocrit was 25%. Red blood cells were seen on urine microscopy. Other lab parameters were within normal range .

At approximately 1.30 am she delivered a dead male baby. At around 6:00 am, family members called for the nurse because she had stopped breathing. On assessment by the physician, she was pulseless, without breath sounds, and did not have a corneal reflex nor heart beat. He pronounced her dead at that time.

The woman was from a village about eight hours away from the hospital. She lived with her husband's family; her husband was away working in India. She was from the Dalit community. Before bringing her into our hospital she had been brought to a local faith healer, who treated her for two days.

Top possible causes of death
Possible etiologies include (in order of likelihood):
Intrauterine Fetal Demise with subsequent infection, gram negative rod sepsis, and disseminated intravascular coagulation
HELLP Syndrome
Infective Hepatitis
Cholecystitis/Cholangitis
Other acute infectious etiologies, such as Leptospirosis

Systems-level Analysis
Nyaya Health assesses the root causes of mortality within the following levels of analysis.

1) Clinic operations
Staff felt that she was triaged effectively and seen by the physician in a timely manner and with sufficient resources and time to evaluate the patient.

2) Supply chain

In this case, the medicines that staff felt were needed were available. No supply chains issues were identified.

3) Equipment/machinery]
We do not have intensive care unit level care (with ventilators and resuscitation equipment) which is what the lady needed on initial presentation. The closest ICU is in Nepalgunj which is fourteen hours away and very expensive to travel to. Although in this case, she presented too late to care, treatment of HELLP syndrome is emergency delivery of the fetus, which we are not yet set up to do, since we not having operating capacity.

4) Personnel and Communication
There were no identified gaps in communication between providers.

5) Outreach
Besides the lack of intensive care unit care, outreach is probably one of the most important systems issues that may perhaps have prevented this death. According to the history, the lady was sick over the last a couple of days but remained at home; the family did not seek any healthcare for her until she was very sick and lost fetal movement. She was taken to local faith healer. One government female community health volunteer is assigned to each ward but there is no indication that the family sought the services of such a volunteer. It is unclear if they even went to a nearby sub-health post. Nyaya currently does not have a community health worker in her village.

6) Societal
The lady is from the Dalit community which historically has been the poorest and most downtrodden community due to discrimation by higher castes. Her husband was in India. She was daughter in law in the family, and she has to work extensively even while pregnant. She might be ashamed to share her illness earlier to her family. These factors all delayed her getting treatment in time.

7) Structural
As with so many of our patients, the poor roads and entrenched poverty prevented the family from seeking care earlier .

Final Evaluation and Response
The primary systems issue that likely contributed to this tragedy was the lack of community health care and education which prevented the family from seeking treatment earlier. The lack of intensive care unit and obstretrical surgical care in Achham and the difficulties of referral to a tertiary center are other systems issues.