Dr.Raman Kataria <k.drraman@gmail.com> 12/17/15

to Gupta, me, Yogesh

Dear Sanjay,
Thank you for considering our proposal which includes support for the ICU.

Here are some answers to the questions posed re the ICU proposed at JSS.

The need for ICU at Ganiyari?
JSS hospital, though located in a rural setting is often compelled to provide tertiary care. This may be for snake bites which in these parts are often Krait or Cobra and are neurotoxic., poisonings especially organophosphorus, very sick patients with pneumonias both adults and children, pancreatitis etc. Also being the only public facility offering newborn surgery in a state with a population of over 25 million, some diaphragmatic hernias, esophageal atresia with TEF, and exomphalos major do require ventilation and ICU care. In addition, there are the critically ill RHD patients, who may need accurate pressor support with good quality monitoring. There may be a few patients who would require some kind of step down care, what in some parts of the world may be called a high dependancy unit. In the absence of such a unit, this would also subserve that need.
As it stands right now, our sickest patients are scattered throughout the hospital, usually in Ward 1 or 2 but often have to be referred out for want of the ICU. the cost of care in the private setup is exorbitant and out of reach, while the facilities available in the Medical college hospital are suboptimal, and they too can be quite expensive. We believe strongly that we need to go the extra mile to provide intensive care in our Rural Hospital for the care of these sick and invariably impoverished rural folk.

As per plan, our "scale up" could logically start with the following:

1) 3 ventilators (1/2 of the total number of beds, planned at 6 beds total)
2) Central lines for both children and adults, allowing us to ...
3) Provide pressor support with noradernaline and epinephrine in addition to dopamine
4) An arterial blood gas machine (planned but yet to figure a way of getting it)
5) portable USG with cardiac / abdominal / vascular probes.

Additional "bells and whistles" that are common in developed nation ICU's are probably not an appropriate use of resources at this time >> dialysis machines, arterial lines, but could be considered after working on the 1st five above.

What impact this project will have on JSS hospital and also the community you serve?

JSS
1) Resident Education: The ICU could be a "rotation" for one or two residents just the way they rotate through the Wards. On this rotation, residents could gain confidence in resuscitation (in Emergency too) and care of the critically ill patient, from ICU care to intubation / ventilator management to basic procedures like use of the ultrasound for diagnosis / monitoring treatment and central line placement (internal jugular, subclavian, femoral).
2) Nursing Education: Some of our sisters are clearly exemplary in emergencies / resuscitations. It seems logical they could be further trained in CPR / ICU care. We could even develop a team whose job it is to respond to emergencies.
3) Source of Advocacy: that intensive care is a need even for rural people, and that it is

blatantly unfair to ignore this need in the current public health care provisioning.
4) Provider Satisfaction: Care providers at JSS get the satisfaction of treating patients comprehensively, and develop confidence in going all out to treat seemingly unsalvageable problems.

Community:
1) Fewer referrals to other centers
2) ICU care provided at a more sustainable price
3) A change in expectations >> currently, we believe that part of the reason patients ask to take their very sick loved one home is expectations (and not just financial or cultural as is often argued) that this patient will not live. As our ICU scales up, we think some (not all) of those cases may actually prove to be salvageable and that will lead to a change in expectations. This will be slow but we believe it is possible.

Time scales involved:
We think a slow scale up over 1 year time is feasible. Involving 1 senior doctor, 1 senior sister and 1 senior coordinator should work as a team in terms of "rolling out" the ICU, with support from technically competent intensivist friends from other institutions, who would be involved in training and mentoring. Each would be involved with training of their appropriate coworkers.

Also how would we measure the progress and impact.
For JSS : the number of very sick patients who get ICU care after the commissioning of the ICU. How many reduced referrals does that translate into.?
For residents and sisters, it would not be difficult >> we would document competency in the various aspects of ICU care.
For patient outcomes >> We have kept a register of all in hospital deaths. We could compare the level of illness to patients after the ICU is started and see if there are any differences in outcomes, though the type of sick patients that we may draw, might change.
Cost of care in the ICU would also be measured and could be used to advocate for qualty intensive care at reasonable costs.
we would be happy to reply to any questions in this regard.
Regards,
RAMAN