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2010 : March 2010 - Fast Moving Fronts : Sunil V. Rao on Blood Transfusions in Patients With Acute Coronary Syndromes

FAST MOVING FRONTS - 2010

March 2010



Sunil V. Rao talks with *ScienceWatch.com* and answers a few questions about this month's Fast Moving Fronts paper in the field of Clinical Medicine.



Article: Relationship of blood transfusion and clinical outcomes in patients with acute coronary syndromes

Authors: **Rao SV**, Jollis JG, Harrington RA, Granger CB, Newby LK, Armstrong PW, Moliterno DJ, Lindblad L, Pieper K, Topol EJ, Stamler JS, Califf RM

Journal: JAMA, Volume: 292, Issue: 13, Pages: 1555-1562, Published: OCT 6 2004

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SW: Why do you think your paper is highly cited?

I think it is for two reasons:

- 1) The therapies we use now for ischemic heart disease work to reduce the risk of recurrent events but place patients at risk for bleeding complications, which are often treated with a blood transfusion. We really don't know how safe transfusion is in this setting because it's never been tested.
- 2) There is a lot of research going on now that is looking at whether we can achieve both an efficacious and safe (i.e., reduced bleeding risk) therapy for patients with heart attack. The studies are testing whether we can actually improve survival by reducing both the risk of recurrent heart attack and the risk of bleeding.

SW: Does it describe a new discovery, methodology, or synthesis of knowledge?

What it describes is that, for the first time in patients with heart disease, blood transfusion may not be a benign treatment. Previously, blood transfusion was looked at as an "insurance policy" against the risks of our traditional treatments which place patients at risk for bleeding.

SW: Would you summarize the significance of your paper in layman's terms?

Well, I think it's important to not overinterpret our results. Our study was not a randomized trial comparing transfusion vs. no transfusion, which would be the gold standard. However, our study does, for the first time, warn clinicians to make sure that they think twice before reflexively giving patients blood transfusions. They really need to think about whether the patient really needs one.

There are guidelines available to help physicians make these decisions and they recommend that patients who have symptoms related to anemia (low blood counts) like chest pain, shortness of breath and dizziness, undergo transfusion. Other patients who are anemic but have no symptoms should not. Our study suggests that these latter patients may actually have a higher risk of death if they receive a transfusion, i.e., no benefit but only harm.

"Hopefully science will always trump politics, but I am hopeful our research and the research of others who are working in the field will help to make our blood supply even safer."

SW: How did you become involved in this research and were any particular problems encountered along the way?

I got interested in this quite by accident. I was working on another completely unrelated study that involved looking at billing records and we found that among community-dwelling otherwise healthy people over the age of 65, the most common procedure that was being performed was blood transfusion.

This really amazed me and when I looked into it, I realized that there was really no good evidence that supported the use of blood transfusion. The biggest problem we encountered was skepticism in the clinical community regarding our findings. This is healthy though, because it does demand that we generate higher levels of evidence. Our study is just the first step.

SW: Where do you see your research leading in the future?

We're hoping to start a randomized trial in the near future to see if our findings from the observational study hold up when tested prospectively.

SW: Do you foresee any social or political implications for your research?

Hopefully science will always trump politics, but I am hopeful our research and the research of others who are working in the field will help to make our blood supply even safer.

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