

Editorial

Needless Interventions in Medicine

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“All that glitters are not gold” is an old, but true adage. Cardiac interventions, heading the list of many such interventions in modern medicine, have been hogging limelight for the last three decades or so. Whereas they have a very definite role to play in palliating intractable pain and/or refractory left heart failure following a heart attack or crescendo angina, they certainly do not have a role in patients who are asymptomatic, but have blocks in their coronary vessels with good left ventricular function. I have been one of those hapless victims of a vilification campaign for having been saying this in last two decades^[1,2].

More studies, on larger number of patients, in contrast to the small studies done with funding from the instrument manufacturers, have demonstrated the real picture. These studies do not get read so widely by the people who matter the most, our practicing physicians, as many of the latter do not have the time and inclination to get deep into this dense forest of medical literature, where more than 35,000 new articles appear in the innumerable biomedical journals every month! It is, additionally, very difficult for the novice to get into this jungle of medical literature and distinguish rosewood from firewood. This is the sole motto, in reiterating what I have been saying for years, with more evidence from newer studies.

Many other interventions have had similar stories. A glaring example would be that of the Swan-Ganz catheter that was being used literally in every patient in the Intensive Therapy Unit and the Coronary Care Units. A recent study of some American hospitals revealed that the catheter itself could have caused nearly 100,000 deaths in four years!^[3] This has created a general awareness, in medical circles, that many have asked for a moratorium on the Swan-Ganz catheter.

There are many other interventions that have not been audited before being used on the gullible public, unlike the newer drugs that, per force, have to go through randomized controlled human trials, before being used in patients. There have been fatal

errors in this procedure even in case of drugs, the glaring example being milrinone in heart failure treatment.

There was a time when the inventors of newer devices insisted that they test it on themselves before using it on the hapless patients. A good example is that of Late Dr. Lewis Dexter. In the year 1944, Lewis Dexter was studying renin in hypertensive patients. With his catheter in the inferior vena cava to get into the renal vein he wandered a bit further up above the diaphragm. To his dismay he found that his catheter had slipped into the lung of the patient. Dexter was sure that he had perforated the heart. He then did not know what to do! He put on the lights and asked the patient “Mr. S...How are you?” The patient said: “ I look a hell of lot better than you look.” Shocked that he must have punctured the heart, Dexter wrote the following paragraph in the case sheet that day, the 7th of December 1944. “Then I was pretty sure that, having perforated the heart, it just sort of sealed itself off and wondered what would happen when I pulled it out. So I closed my eyes and then pulled it out-nothing happened. And then.....it was all over and I put little Band-Aid on his entry wound and went and looked up the anatomy of the chest and figured I had gone into the pulmonary artery.”⁴

Dexter then discussed his adventure with Dr. C. Sydney Burwell, the dean of the Harvard Medical School at that time. The latter suggested that if Dexter could get to the pulmonary artery that easily, he could study congenital heart diseases in greater detail!

But Dexter wanted to put the catheter first into his own pulmonary artery to show to others that it is safe. He also wanted to do some exercise when he had the catheter inside him to verify that no harm could come to any patient from pulmonary artery catheterization. No one had done that before him. He did not believe that he should subject anybody for a procedure that he himself would not be willing to undergo. He asked one of his Fellows to place the catheter in his heart and pushed it to the

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pulmonary artery himself. He then gently sat up. Everyone was holding his or her breath and thought Dexter would have a cardiac arrest anytime! It was the time when defibrillators were not there! Then he stood up. Nothing happened to him. He then skipped a bit and then proceeded to vigorous exercise recording all the changes in the heart during exercise^[5]. That is what we need in people wanting to sell technology without controlled studies. I hope people get the message.

A large study of 18,151 patients who underwent bypass surgery immediately after a heart attack or following an attack of crescendo angina (unstable angina) showed that they were nearly four times more likely to have a subsequent stroke than those who did not have bypass surgery^[6]. Death in these stroke patients following bypass surgery was much higher! This study showed, in addition, that bypass surgery was the most important predictor of stroke followed by past history of stroke, diabetes, and older age group. Most glaring finding of this study, about which I have written many times in the past, is that the existence of an onsite catheterization laboratory facility was also a risk factor for subsequent stroke in those hapless patients with a heart attack admitted to such hospitals.

This study did not show statistically increased stroke following angioplasty. Those wanting to sell angioplasty could use this as their marketing strategy. They can not, however, escape the findings of another study which showed that "angioplasty may lead to greater reduction in anginal pain compared to medical treatment but at a cost of more coronary artery bypass grafting.....although all the randomized controlled trials done all over the world and published between 1979 and 1998 do not give enough data about death and subsequent revascularization, the trends so far DO NOT FAVOUR ANGIOPLASTY"^[7].

Curiously, another study has shown that "initial angioplasty may complicate the bypass operation and may increase postoperative mortality and morbidity^[8]. An audit on an earlier study of bypass surgeries did show that in those without symptoms a large majority of recipients (84%) of bypass surgery did not get any life expectancy benefit from their interventions. Only 16% did get some small benefit^[9]. This study had audited a large number of such procedures running to nearly 60,000.

Other studies in the past have also thrown light on the side effects of bypass surgery on the brain^[10]. These studies showed the incidence of stroke following bypass surgery to be anywhere between 1.5 to 5.2%, postoperative delirium to be 10-30%, and cognitive decline to be ranging from 53% on discharge to 42% on a long term basis^[11].

One could go on and on, but that would take away the punch of this message, which centers round coronary bypass surgery, the one intervention that is the till-mover of many fee-for-service hospitals, bringing glory and limelight for the star-performers in addition, that needs to be highlighted.

As a rare exception, this procedure is a pain in the neck for only the rich and does not, at the moment, bother the poor. The latter otherwise are at the receiving end of every single illness. Their body's repair wisdom, the faith in their doctor's capacity to heal and the placebo effect, usually look after the poor who get coronary artery disease. They are the lucky ones, for a change.

The scenario is not very different for many of the drugs used in chronic "doctor thinks you have a disease" syndromes like hyperlipidaemias, mild-moderate hypertension and asymptomatic hyperglycaemias^[12,13].

I better conclude this narration by quoting C. D. Naylor in his article in the Archives of Internal medicine thus: "While journal editors have the responsibility to ensure that physicians have ready access to adequate summaries of clinical trials of preventive interventions, ensuring that patients have a similarly objective view of the results before embarking on therapy becomes the responsibility of the physician. Of note, in a hypothetical treatment decision, 79% of the patients stated that they would decline a lipid-lowering drug suggested by their physician after seeing the benefit expressed in an unflattering numeric format"^[14].

Time has come for openness. We cannot blame those who keep doing interventions left right and center, as they know not that linear relations do not work in a dynamic system like the human body^[15]. Whereas the coronary blocks start very early in life, the symptoms of ischemic heart disease starts at a much later date, after the body's compensatory mechanisms weaken with the burden of the ageing process. The four epicardial vessels pictured in the angiogram play a minor role, while the real culprits are the four million small perforating muscle arteries which normally have an enormous capacity to dilate and accommodate extra blood on demand, called the coronary reserve. Unlike what the interventionalists think, the coronary block is not akin to a block in the rigid water pipe. Body's wisdom tries its best to compensate for the arterial blocks by remodeling. It is also true that when the vessels are bad in one part of the body, the vessels elsewhere are equally bad. The connection between heart attacks and brain attacks, seen above, is not surprising at all, much rather it should have been expected in advance!

There are many things in interventional medicine that we should not be doing, unless our backs are pressed against the wall. It is our moral obligation to bring this to the notice of our patients and let them take the final decision in any intervention, guided by us as partners in disease management. Time has come for partnership in patient care in place of paternalism.

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