

## **Hair Splitting at What Cost?**

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No doubt, Immune stains and genetic marker tests have brought new insight in pathology diagnoses and have contributed toward better diagnosis and management. They have helped us in tracing the tissue origin of the tumors. As it is said aid that too much of everything is bad, too much hair splitting may not that be good or beneficial! At times, immune stains and genetic markers may be very expensive. Most developing countries invariably follow developed countries almost blindly, so their health providers recommend such tests and strategies for almost every malignancy. In developing countries where most people have hard time to meet ends, can they bear the cost of these expensive tests? The cost consideration must be evaluated in relation to personal income and affordability. In addition to the cost there are many other concerns that also need to be addressed; not only for developing countries but also for the developed world.

In every case, the very first consideration should be, how essential these tests are? How significant improvement these tests will bring? In some countries mere diagnosis of cancer versus benign and "crude" type of malignancy e.g., adenocarcinoma vs. malignancy is all that's important. Mere claims of prolonging survival by a few months should not be accepted without hard and serious self-conscious, penetrating and deeply analytical questions. How solid are the "proofs"? Have all competitive, interfering factors been meticulously excluded? Have the research methodology, results and conclusions been confirmed by different independent workers over a prolonged time? Were genetic make ups of individuals, diet, exercise status, mental & emotional status, medicines, drug abuse etc. been zeroed in and how?

There is a tendency to accept the new trends and it seems rather fashionable to accept the results too soon and present these in conferences authoritatively. I remember the days when S100 was introduced a specific marker for neuronal tissues and tumors, but overtime it turned out to be quite nonspecific; being positive in many non-neurological tissues. A good microscopic

examination may eliminate the necessity of doing many immune stains. In some countries doctors are requesting immune markers and other studies just to avoid litigations or to contribute to the earning of the laboratories.

Then comes varieties of genetic markers! How important is for example calculating squamous & columnar cell % based on some genetic tests in large cell carcinoma of the lungs when we do know that these cells are interconvertible! And how much benefit we will get from doing these tests? For example, Basing chemotherapy on percentage of squamous or columnar cells appear little over stretched. On the other hand, Estrogen, Progesterone and HER2 new markers do legitimately help in breast cancer treatment. So, our point is, use these tests judiciously considering all factors.

Too many immune stains and genetic markers may force pathologists to limit their practice to limit to a particular system pathology.

As Prophet Muhammad sought Allah's protection from useless knowledge<sup>2</sup>; this kind of knowledge not only increases the cost of management but also wastes pathologist's valuable time and those of laboratory personnel.

In conclusion, we must use these tests only when necessary and when their significant usefulness has been established without doubt. The tests must be requested in the light of patients' pockets and overall economic status of the country. Research should direct toward simpler, cheaper, and more specific tests. New research findings must not be accepted and propagated without utmost verification.

### **References**

1. Raab SS The cost-effectiveness of immunohistochemistry Archives of Pathology & Laboratory Medicine 124(8):1185-91
2. <http://mstasnim.weebly.com/community-blog/what-is-useful-knowledge-how-does-it-differ-from-useless-knowledge-give-an-example>