International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Does Lack of Clinico-Pathological Correlation Means Lack of Communication between Clinician and Pathologist?

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Running title: *Lack of communication between clinicians and pathologist for clinico-pathological correlation.*

Clinico-pathological correlation is the communication between the treating physician or surgeon and the diagnostician who is the pathologist. The role of the same is well understood well-spoken about but is it well practiced uniformly everywhere by all of us concerned? Here is our viewpoint as a surgeon and a pathology colleague, as passionate about a patient's welfare as is my surgeon who faces his/her patient to explain the diagnosis and proceeds to treating him.

The ever-developing spectrum of diseases over the recent years mandates the clinician and pathologist be updated constantly. The changing guidelines and new found diseases have been a result of evaluating unknown, unexplained or under-explained clinical scenarios not explained by existing knowledge of the clinical medicine. Pathology has a huge role in the evaluation process. The advent of newer pathological techniques such as IHC, fluid cytology, miRNA analysis etc., have had deep impact on the understanding of the pathophysiology of various diseases. The clinico-pathological correlation, thus, has paved way for the growth of medicine as a whole and benefits the larger population.

Clinico-pathological correlation forms the crux of clinching diagnosis in case of a clinical dilemma. Dilemma of a critical care team in differentiating sepsis and vasculitis in a 56 years male with acute abdominal pain, gastrointestinal bleed, acute kidney injury, skin rash and new onset organ failure is valid. On one hand, giving steroid to an infective etiology can worsen the condition. On the other hand, withholding potentially curative steroids in view of suspected infection will delay treatment and can result in poorer outcomes. Pathological examination of skin lesion, single simple information, by the pathologist can thus change the outcome of a disease by early institution of appropriate therapy.

The above scenario is not uncommon in high volume intensive care units. While the clinician needs a simple and quick answer from the pathologist, the pathologist might require lot of clinical data before coming to a conclusion. The clinician filled requisition forms accompanying the pathological samples hardly do justice to address this void.

We are in a fast-moving world with multitasking being the order of the day with all of us trying to do justice to each role we don on every minute in the healthcare system from roles as an administrator who ensures that every need of his patient is met, to being a healer when he actually institutes the treatment. In this busy schedule the most important thing after the painstaking surgical procedure, something as important as the surgery which he did for so many long hours becomes neglected sometimes.

Moreover, the pathologist might not be aware of the criticality of the report and quite often the sample is processed along with not so urgent reports. It might be also possible that a busy pathologist might proceed with giving a descriptive reporting and not lend any conclusive impression. The clinical team would then not have the crucial piece of information to save the patient, over and above the time lost in waiting for the report.

Not so few surgical pathology requests come to the table of pathologist without mentioning the history of prior therapy instituted to the patient or any previous surgical procedure the patient underwent. This has a huge impact on the histology of the tumor itself. Sometimes most of the tumor is necrotic and the pathologist finds it difficult to type the tumor because of the altered histology. The tumor grading also cannot be done in a sarcoma which has undergone pre-surgical treatment. It becomes impossible to mention the residual cancer burden and an unsuspecting pathologist released the report without mentioning it only to be told later that the report released is incomplete.

Entire scenario changes if the clinical team makes a single phone call to the pathologist. Apart from getting more clinical information, the pathologist will feel that they are part of treating team rather than performing a technical job. The clinician in turn is likely to benefit from a timely and definitive report.

Similar situation arises when an elderly patient with large rectal growth presents to a surgeon. Though malignancy might be the first differential diagnosis, a diagnosis of large adenomatous polyp might also be entertained if the radiology does not correlate with the diagnosis of malignancy. The management will be different and is solely based on the histology report irrespective of clinical and radiological findings. A message from the surgeon to the pathologist

explaining the scenario is likely to yield a more assertive and responsible report. The ultimate beneficiary will be the patient.

History is very important and we need to remember our roots. But sometimes history remains a mystery and this causes problems in diagnosis. This is very important in small biopsy samples wherein the tissue is small and the diagnostic decision needs to be faster and accurate. This is best exemplified by a clear cell tumor in the duodenal wall which makes the pathologist think of all the tumors which can be composed of clear cells and can occur in the duodenum. The IHC markers are wide and huge if the list of differential diagnosis is long. This gets easier when the prior history of renal cell carcinoma operated is given to the pathologist. Now the Pathologist can prioritise metastasis and work up for the same which will yield a definitive diagnosis within the limited tissue and also conserve the resources.

As a practicing pathologist I have difficulties when my busy surgeon is unable to find time to tell me what he wants during a frozen section of a patient. On the table operating on a patient, it is very difficult to talk and so is it difficult for a pathologist to make a life changing decision sitting at his table with the microscope. What is the expectation of the surgeon during a frozen section is best communicated prior to the procedure with complete understanding by bit parties of the implications of the decisions made is pertinent. The imaging findings and the biochemical parameters with the clinical diagnosis discussed prior to procedure will make a decision between a germ cell tumor and an epithelial malignancy easier and faster during a frozen section.

Another important area where communication is key is when the Pathologist is deciding on the Immunohistochemistry markers. They arrive at a panel of markers based on the histology of a tumor and if anymore to be added comes out of an open discussion. And also,it should be understood by the treating colleague that the markers cannot be done all at once for all patients and report delivered. There are instances where a pathologist takes a stepwise approach in the best interest of the patient with step by step choice of the appropriate biomarkers the understanding of which can come only by proper adequate communication

Needless to say is the importance of respected surgical margins and their identification. Some tumors which have perforated the intestine at one point may not be visible to the Pathologist after fixation in formalin but including the information in the report is of paramount importance. All these details will be on a Pathologist s table only when the communication is effective and good. Another important area where communication is key is when the Pathologist is deciding on the Immunohistochemistry markers. They arrive at a panel of markers based on the histology of a tumor and if anymore to be added comes out of an open discussion. And also,it should be understood by the treating colleague that the markers cannot be done all at once for all patients and report delivered. There are instances where a pathologist takes a stepwise approach in the best interest of the patient with step by step choice of the appropriate biomarkers the understanding of which can come only by proper adequate communication.

It is difficult to find a pathologist in a clinician conference and vice-versa. Unless there is regular and fruitful interaction between them, one may not be aware of the difficulties faced by the other and the responsibilities each have towards managing a patient. Discussion about sampling can be improved can reduce the occurrence of incomplete reports because of inadequate samples. Request from a clinician to include a particular character in the pathology report, like tumor regression grade or liver fibrosis score, increases the pathologists involvement in reporting. Lack of such communications is likely to increase the chances of iatrogenic “clinico-pathological discorrelation”.

Now is the era of advances in every field of medicine and no-one can be a master. The changing concepts and their impact on outcome to the patient should be well understood by both sides and communication with mutual respect to the other supporting fields of medicine is key to move towards betterment of patient care.

No write-up is complete without discussing the molecular aspects of a disease .In deciding the molecular test a patient has to undergo for diagnosis treatment and in prognostication of a disease too an open multidisciplinary team discussion is needed so that the pathologist will know if the results of molecular diagnostics is in line with the pathology observed and will be able to put it in perspective .And also, the implications of various genetic changes and their effects on histology can be perceived well with the knowledge used for future patient care and research. Input of the pathologist on the molecular changes observed will be a bridge between the technical science and medical science.

Time is a precious commodity for all of us and the time spent in communication will definitely reduce the time spent in pondering about the diagnosis and also in deciding the best possible treatment for the patient. It is critical that clinicians respect the clinician in a pathologist and pathologists respect the pathologist in a clinician. This will provide the maximum benefit to the patient.

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