

Molecular Testing for Better Patient treatment Outcome

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Abstract:

Treating Cancer had always been big challenge to the Oncologist, Patient and care givers.

For almost a decade treatment offered was based on approved chemotherapy regimens with or without radiation therapy. The chemo regimens would consist of two or three chemo drugs to achieve cumulative effect but oncologists would face daunting task in managing the drug related side effects. Perhaps the premises of “One Size fits all” was working but side effects would take toll of psychological effect and long time to recover from side effect even after getting rid of disease.

With the advent of sequencers (Sanger & NGS) and RTPCR'S, the thought process of “One size Fits all” got changed to “One size does not fits All” and started to stress on the individual treatment. Here the NGS played big role in sequencing Single Cell to Number of Genes (eg Hotspot Panels) which bore the result in just 5-7% of Patient, but seeing the positive impact on those patients resulted in researcher to think and individualise Diagnosis and treatment. So bigger panels were planned having more number of genes to analysis; bore results.

Researchers felt Job is half done; this sets the realisation that deep Gene Investigations would help addressing the root cause of disease, better response, faster recovery and minimal side effects. So today we have Gene/Sub-Gene Mutation information's and treatment plans. Today with efforts of the researchers we have reached to stage wherein we are able to address and obtain in one go; case in point is Lung Cancer, previously oncologists used to order single gene testing Like EGFR-ALK- KRAS-ROS1-C-Met, but the information's would come in pieces. But NGS has helped doctors to analysis in one go.

Not only all actionable genes are analysed in one go but you too get information on Fusion genes, like wise we have such panels for other cancers.

All these efforts have led to better patient outcome and faster recovery and disease free.

We have moved from Platinum /Non Platinum based chemo to the oral chemotherapy to Targeted Therapies to Immunotherapy so on.

Key Words: Immunology, Cancer Therapy, Chemotherapy

Results:

Histological examination of the removed appendix has shown “Adenocarcinoma of the appendix in the base of epithelial adenoma, with negative surrounding lymph nodes”. Following the histopathology report the patient has underwent an elective right hemicolectomy at a later stage.

Conclusions:

The neoplasms of the appendix are rare (1% of the cases) and are usually expressed as acute appendicitis. Adenocarcinomas correspond to 10% of the cases of tumors of the appendix whereas there are three histological types: mucosal (more often), intestinal (colonic) and Signet- ring cell carcinoma. The treatment always involves surgical intervention, right hemicolectomy, which gives a better five year survival rate (73%) compared to appendicectomy (44%). In some cases a simple appendicectomy was the treatment of choice if the margins of the tumor stop at the mucosal or sub-mucosal layer. Chemotherapy has not been proved to contribute to treatment.