



## IMPACT OF CLINICAL DECISION IN MULTI-DISCIPLINARY TUMOR BOARDS ON THE OUTCOME OF CARCINOMA PATIENTS PRESENTING IN A TERTIARY CARE HOSPITAL HOSPITAL, LAHORE

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### ABSTRACT

**Background:** This comprehensive study evaluates the impact of Multi-disciplinary Tumor Boards (MDTB) on the management of various carcinomas at Sheikh Zayed Hospital, Lahore. It focuses on decision-making processes, adherence to national and international guidelines, and the overall performance of MDTBs in optimizing patient care.

**Methods:** A total of 141 cases across different carcinoma types, including breast, periampullary, gastric, and colorectal, underwent MDTB discussions. The study analyzes outcomes related to changes in pathology reporting, imaging modalities, surgical respectability, upstaging/downstaging, decisions on surgery, and nuclear medicine interventions.

**Results:** MDTB discussions influenced decision-making, with notable impacts on surgery recommendations and nuclear medicine interventions. Surgical decisions were made collaboratively, considering tumor characteristics, patient health, and available resources. The study identified variations in neoadjuvant and adjuvant therapy recommendations based on MDTB discussions.

**Follow-up:** Detailed follow-up data revealed varying outcomes among different carcinoma types, highlighting the need for individualized approaches. Breast cancer cases, being the most prevalent, demonstrated diverse treatment paths, including Breast Conservation Surgery (BCS) and different types of mastectomies. Periampullary, gastric, and colorectal carcinoma cases exhibited specific patterns in upfront surgery, adjuvant therapy, and patient outcomes.

**Discussions:** The study emphasizes the benefits of MDTBs in improving patient care through collaborative decision-making, knowledge exchange, and comprehensive treatment planning. MDTBs enhance diagnostic accuracy, improve treatment planning, and provide a coordinated approach to managing carcinomas, ultimately leading to better patient outcomes and satisfaction.

**Conclusions:** MDTBs, guided by established guidelines, played a crucial role in managing carcinomas at Sheikh Zayed Hospital. The study highlights the positive impact of MDTBs on

decision-making, mortality rates, and the overall quality of care. The collaborative nature of MDTBs fosters peer-assisted learning, knowledge sharing, and improved patient survival statistics.

**Bibliography:** The study is informed by relevant literature on the impact of MDTBs in cancer management, emphasizing the global significance of collaborative decision-making in oncology.

### Introduction:

A centralized body is a mandatory requirement for effectively managing tumor patients. The frequent observations concluded that the coordination among the departments for tumor control gives rise to the Multi-disciplinary Tumor Boards (MDTBs) sticking to specific procedures and principles and offering generalized and specified treatment to all patients following the set principles (1). The effectiveness of MDTB is appreciable among the departments with higher cancer pathological cases. The MDTB oversight on the thoracic, urology, upper GIT, breast, and gynecologic malignancies has provided fruitful results (2, 3). There are several departments where the impact and effectiveness of MDTB are challenged. Observing a group of retrospective studies and analyzing the results suggest that the MDTB oversight has improved management among 50% of the malignancy cases reviewed, enhancing the survival rate. (4, 5). Another set of retrospective studies concluded with no impact of MDTB upon the reviewed malignancy cases, giving birth to two different paradigms for MDTB oversight in the secondary and tertiary care institutes such as Sheikh Zayed Hospital (6, 7).

MDTBs act as the central coordinating body among the different departments with a team of representatives based upon radiologists, pathologists, surgeons, gastroenterologists, and oncologists from medical and radiation wings (4, 8, 9). These representatives might differ in opinion regarding the health care plan. The colorectal, gastric, peri-ampullary tumors and breast are one of the significant malignancy observing areas in Sheikh Zayed Hospital. The complexity of treating these malignancies requires appropriate and immediate decision-making.

In 2020 the count of the world human population stood at 7.84 billion(10). The population count in Pakistan stands at 220.9 million(11). The number of public hospitals in a densely populated country is 1279(12). Sheikh Zayed Hospital is a pioneer hospital with Federal Government oversight and a developed General Surgery and Surgical Oncology department having MDTB oversight. The WHO shared figures depict the death caused by a tumor in 2020 as 10 million(13). The deaths from colorectal malignancy are 9,16,000, hepatobiliary cancer mortality figures are 8,30,000, whereas the gastric cancer mortality figures are 7,69,000. The number of deaths caused by breast cancer is 685000. This suggests that a total of 0.013 percent of the world's population died from tumors and malignancies. The significant cancers that caused deaths included the malignancies of the periampullary region, hepatobiliary, gastric, colon, and breasts. (14)

The retrospective evaluation of the MDTB meetings suggests that clinicians' non-adherence to the recommendations of MDTB limits the impact of MDTB (15, 16). MDTB is integral to decision-making and requires increased non-clinical hour demand. The one million personhours annually have been observed to be the standard requirement for MDTB in the UK, requiring high budgets leading to the query regarding the effectiveness and impact of the boards (17, 18). There are several malignancies, including pancreato-biliary, breast, gastric and colorectal cases (1), with grey areas that do not identify the impact of the MDTBs upon their cases, giving rise to an increased demand for a study. The Sheikh Zayed Hospital MDTB participants include radiology, pathology, surgical oncology, medical oncology (19), and gastroenterology. 146 malignancy cases were presented in front of the MDTB in 2 years, from January 2020 to Jan 2022.

This study aims to determine the impact of MDTBs on the clinical outcome of carcinoma patients by providing significant input in their diagnostic-therapeutic pathway. Sheikh Zayed hospital has a burden of oncological cases, and effective decision-making and care coordination for carcinoma patients can make a significant impact on the survival and management of patients. If the study results show a positive impact, discussion of cancer cases in MDTs can be implemented in other

tertiary care hospitals and can have fruitful results. It will also improve the outcome of patients and will add to the benefit of community and health care policies.

### **Methodology:**

The study was conducted on 141 patients from the GSSO department of Shaikh Zayed Hospital Lahore, Pakistan. Cases eligible for presentation included new or existing outpatient or inpatient cases of malignancy. Indication for discussion was at the discretion of the attending surgeon. This led to the inclusion of patients at different stages of the diagnostic-therapeutic process. A weekly case list was distributed to members of MDTB prior to the meeting, and then organizers led the MDTB case discussions.

A retrospective review of all the cases was done based on the available minutes of MDT boards. After presenting each case in MTBs, the final decision and further plan were documented on an MDT form. One copy was attached to the patient's file, and MDT organizers collected the other. The collected data were retrospectively evaluated. The data extracted for the study included the patient's age, gender, comorbidities, pre-MDTB plan, tumor origin and grade, pathology or imaging presented, imaging modalities reviewed, any pathology amendments, a summary of consensus findings, and treatment plan changes.

Relapse-free survival/progression/mortality was also prospectively studied for two years through telemedicine and outdoor follow-up. Five outcomes of the study were predetermined and included tumor board recommendation regarding "Changes in pre-MDTB reporting of imaging modalities/pathology," "Surgical interventions based on resectability/non-resectability," "Upstaging/downstaging after MDTB discussion," Nuclear medicine intervention like neoadjuvant/adjuvant/palliative therapy," and "Pre-MDT treatment plan changes." "Decision of multi-disciplinary clarifications" was a broad term used for the cases that needed further workup and were presented again. The recommendations of MDTs were ultimately adopted by the consulting surgeon strictly.

If any imaging modality/pathology report was changed by radiology/pathology participants, it was coded as "altered." If no change in reporting was made, it was coded as "non-altered."

The advised surgical plan was also documented for each case, and surgical technique according to the stage of malignancy was separately documented. Recommendations on tumor resectability or non-resectability were based on experts' opinions at the time of the discussion and following the NCCN guidelines. The stage of the patient's disease was categorized as "Up-staged" or "Down-staged," as discussed in MDTBs according to the pre-MDT stage.

If the consensus was made to start any nuclear medical intervention, it was coded separately as "Neoadjuvant"/"adjuvant"/"Palliative" therapy. Indications and proposals of these treatments were based on tumor staging, patients' performance status evaluated on ASA and ECOG Score, age, and comorbidities. If the consensus was to remain on pre MDT treatment plan, the plan change was coded as "No"; if the plan was altered, it was coded as "yes."

Follow-up of all the patients was then collected through data available in the outdoor department with regular follow-ups or was contacted through telephones. Relapse-free survival, current treatment, medical issues, and mortalities were noted prospectively. This follow-up data was then noted as "Relapse free survival," "Ongoing Neoadjuvant/Adjuvant," "Palliative," and "Expired."

### **Results:**

As evident in table 2 and 3 between Jan 2021 and Jan 2023, 141 patients were added to the study, with missing data of approximately 56 patients due to lost follow-up or staffing errors. The median age of participants was \_\_, with 43.1% representation of males and 56.8% representation of females. A breakdown of detailed demographics of patients is described in table 1 and a separate appendix section.

**Table 1 Patient Demographics**

| Variables                   | Characteristic | N   | (%)      |
|-----------------------------|----------------|-----|----------|
| Total                       | N              | 146 | (100%)   |
| Gender                      | Male           | 63  | (43.1%)  |
|                             | Female         | 83  | (56.8%)  |
| Age                         | 20-30 years    | 04  | (0.027%) |
|                             | 30- 50 years   | 48  | (32.8%)  |
|                             | 50 – 70 years  | 59  | (40.4%)  |
|                             | 70 and above   | 35  | (23.2%)  |
| Patients with comorbidities | N              | 140 | (96%)    |
|                             | Male           | 49  | (33.5%)  |
|                             | Female         | 62  | (42.4%)  |

The tumors selected to include in this study had the most cases of breast carcinoma (42.46%), followed by colorectal carcinoma 34.2%, gastric carcinoma (7.5%), Carcinoma head of the pancreas (5.4%), peri-ampullary tumors (5.4%) and cholangiocarcinoma (1.36%). More specifically, some of these cases were discussed once, and some were discussed twice or more. The most common cause of re-discussion was the need for additional diagnostic workup or reevaluation after the already given plan. Surgical residents discussed all these cases. A descriptive flow chart of discussed cases is given below,

**Table 2 Carcinoma-Based Classification**

| Carcinomas                 | Number of reported cases | Incidence rate |
|----------------------------|--------------------------|----------------|
| Carcinoma Head of Pancreas | 8                        | 5.4%           |
| Peri-ampullary Tumor       | 8                        | 5.4%           |
| Cholangiocarcinoma         | 2                        | 1.36%          |
| Breast Carcinomas          | 62                       | 42.46%         |
| Gastric Carcinomas         | 11                       | 7.5%           |
| Colorectal Carcinomas      | 50                       | 34.2%          |

### Change in the pre-MDT reporting of Imaging Modalities:

The change in imaging reports after a multi-disciplinary tumor board (MDT) discussion occurred as a result of the comprehensive and thorough evaluation performed by the MDT. During the MDT discussion, the team reviewed and interpreted imaging studies, such as mammograms, Ct Scans, PET Scans, X-rays, Bone Scans, Barium studies, and Magnetic resonance cholangiopan creatography, to determine the extent and stage of the tumor. It is important to note that changes in imaging reports were both positive and negative and were always discussed with the patient and their family to help them understand the implications and the next steps. Regarding reviewed data, the most significant impact of multi-disciplinary tumor boards was on the change of radiology image interpretation. Overall, the most commonly discussed imaging modality was a CT Scan of the chest, abdomen, and pelvis in 138 cases (98.63%). The second most common modality discussed was a mammogram in 50 (80.64%) out of 62 breast cancer cases. Change in pre-multi-disciplinary tumor boards was performed in 80 out of 141 cases (56.7%) with a P value of 0.963. Among these 80 alterations made, 34 cases were of breast cancer, 11 cases were of periampullary and head of pancreas tumors, 6 cases of gastric carcinoma, and a total of 29 cases of colorectal carcinoma. This change led to a significant impact on the diagnostic pathway and management plan of carcinoma patients. The alteration made were about tumor size, lymph vascular invasion, involvement of surrounding structures, and distant metastasis. These alterations resulted in a change

in the decision of upfront surgery or nuclear medicine interventions and significantly impacted the diagnostic and management pathway of tumors.

#### **Change in the pre-MDT reporting of Pathology:**

During the MDT discussion, the team reviewed and interpreted pathology reports of nearly all tumors, providing information about the nature of the tumor, including its type, grade, and other features. Among 146 cases discussed in multi-disciplinary tumor boards, 11 (7.8%) with a P value of 0.063 had recommendations for repeat biopsy or review. The decision to biopsy was made due to a new enlarging lesion, changed tumor characteristics, or insufficient reports on already available pathology reports. Among these 11 cases, 3 cases (27.27%) were of breast cancer, 3 cases (27.27%) were of periampullary and head of pancreas tumors, 3 cases (27.27%) of gastric carcinoma, and 2 cases (18.18%) of colorectal carcinoma. Other than pathological reviews in these 11 cases, further immunohistostains were advised in 53 cases (36.3%) among all tumor patients, which were required for adjuvant and neoadjuvant therapy.

Further, IHC tests were advised to determine the stage and extent of cancer or if they are considering a particular treatment plan and want to confirm that the patient is a good candidate for that treatment. These immunohistostains resulted in a change of primary tumor in a total of 6 cases (0.04%) and had a significant impact on patients' outcomes. It is important to note that IHC tests were just one piece of information that the MDT considered when making treatment recommendations. The MDT also considered the patient's medical history, previous treatments, and current symptoms, among other factors, when making its recommendations.

#### **Change in an intervention based on Resectability/Non-resectability:**

Another critical role of MDTBs was to determine the resectability of tumors, as it is an essential factor in determining the patient's treatment options, as surgery is often the primary treatment for many types of cancer. The MDTBs reviewed various factors to determine the resectability of tumors, such as the size and location of the tumor, the extent of spread to surrounding tissues and organs, and the patient's overall health and medical history. They also used imaging studies, such as CT scans, MRI scans, and PET scans, to get a clear picture of the tumor and its relationship to surrounding structures. The input and expertise of the various members of the MDTB had a significant impact on the decision on the resectability of tumors. By pooling their knowledge and expertise, the team reached a more informed and accurate decision than any healthcare professional could. A change in the decision of resectability of the tumor, made by the attending surgeon pre-MDT, was altered in 71/141 cases (50.4%). This resulted in better patient treatment outcomes and helped ensure that they received the most appropriate and effective treatment for their condition. Among these 71 cases, 30 were of breast, 27 were of colorectal carcinoma, 7 were of periampullary tumors, and 7 were of gastric carcinomas. In breast carcinoma, the surgical resectability decision was whether to perform BCS or MRM, or tolet mastectomy and about axillary dissection. It is important to note that resectability is not absolute and may change as the disease progresses or the patient's health status changes. For this reason, patients need to work closely with their healthcare team to continuously assess their treatment options and make informed decisions about their care.

#### **Upstaging after MDT discussion:**

Upstaging of a tumor referred to a change in the classification of the tumor to a more advanced stage. In the context of our results, upstaging occurred when the team of healthcare professionals reviewing the case discovered new information that suggested the tumor was more advanced or had spread further than initially thought in the pre-MDT workup. Thirty-one cases of carcinoma out of 141 were upstaged after MDT discussion, and the most frequently upstaged was breast cancer (15 cases; 24.2%). Ten cases of colorectal carcinoma were upstaged, with 5 cases of the periampullary region and 1 of gastric tumor. Thus, a comprehensive evaluation performed by the MDTB, which brings together multiple specialties and perspectives to review the case, had significant implications

for the patient's treatment plan, as it changed the recommended course of action.

### Downstaging after MDT discussion:

Downstaging of a tumor refers to a change in the classification of the tumor to a less advanced stage. In the context of multi-disciplinary tumor boards (MDTBs), downstaging occurred in 5/141 cases suggesting that the tumor is less advanced or has spread less than initially thought. It is important to note that downstaging was considered a positive outcome, resulting in a better prognosis and a more favorable treatment outcome for the patient. However, it was also recognized that downstaging prompts additional testing and monitoring to ensure that cancer has not spread or recurred.

**Table 3 Outcomes**

|   |              | Cancer Type |       |                |      |         |      |            |      |       |      | P-value |
|---|--------------|-------------|-------|----------------|------|---------|------|------------|------|-------|------|---------|
|   |              | Breast      |       | Peri-ampullary |      | Gastric |      | Colorectal |      | Total |      |         |
|   |              | n           | %     | n              | %    | n       | %    | n          | %    | n     | %    |         |
| Change in the pre-MDT reporting of Pathology          | Made         | 3           | 4.8   | 3              | 16.7 | 3       | 27.3 | 2          | 4.0  | 11    | 7.8  | 0.063   |
|   | Not Made     | 59          | 95.2  | 15             | 83.3 | 8       | 72.7 | 48         | 96.0 | 130   | 92.2 |         |
| Change in the pre-MDT reporting of Imaging Modalities | Altered      | 34          | 54.8  | 11             | 61.1 | 6       | 54.5 | 29         | 58.0 | 80    | 56.7 | 0.963   |
|   | Not altered  | 28          | 45.2  | 7              | 38.9 | 5       | 45.5 | 21         | 42.0 | 61    | 43.3 |         |
| Change in Surgical Respectability                     | Made         | 30          | 48.4  | 7              | 38.9 | 7       | 63.6 | 27         | 54.0 | 71    | 50.4 | 0.555   |
|   | Not made     | 32          | 51.6  | 11             | 61.1 | 4       | 36.4 | 23         | 46.0 | 70    | 49.6 |         |
| Upstaging after MDT discussion                        | Yes          | 15          | 24.2  | 5              | 27.8 | 1       | 9.1  | 10         | 20.0 | 31    | 22.0 | 0.590   |
|   | No           | 47          | 75.8  | 13             | 72.2 | 10      | 90.9 | 40         | 80.0 | 110   | 78.0 |         |
| Down staging after MDT discussion                     | Yes          | 0           | 0.0   | 1              | 5.6  | 1       | 9.1  | 3          | 6.0  | 5     | 3.5  | 0.107   |
|   | No           | 62          | 100.0 | 17             | 94.4 | 10      | 90.9 | 47         | 94.0 | 136   | 96.5 |         |
| Decision of surgery                                   | Yes          | 61          | 98.4  | 7              | 38.9 | 3       | 27.3 | 27         | 54.0 | 98    | 69.5 | <0.001  |
|   | No           | 1           | 1.6   | 11             | 61.1 | 8       | 72.7 | 23         | 46.0 | 43    | 30.5 |         |
| Nuclear Medicine Intervention                         | Neo-Adjuvant | 5           | 8.1   | 0.0            | 0.00 | 9       | 81.8 | 11         | 22.0 | 25    | 17.7 | <0.001  |
|   | Adjuvant     | 50          | 80.6  | 11             | 61.1 | 1       | 9.1  | 9          | 18.0 | 71    | 50.3 |         |
|   | Not given    | 7           | 11.3  | 7              | 38.9 | 1       | 9.1  | 30         | 60.0 | 45    | 31.9 |         |

### The decision of surgery:

Various factors can influence discussion when deciding to proceed with surgical intervention after a multi-disciplinary tumor board (MDT). One of the critical factors that may influence the decision to proceed with upfront surgery is the stage and aggressiveness of the tumor. If the MDT discussion determined that the tumor is localized and likely to be surgically resectable, surgery was recommended as the primary treatment option. Other factors influencing the decision to proceed with surgery included the patient's overall health and medical history, preferences and goals, and the surgery's potential risks and benefits compared to other treatment options. The MDT may also consider the availability and expertise of the surgical team, as well as the resources and support available to the patient before, during, and after surgery. The decision to upfront surgery was made in 61 cases of breast carcinoma (98.4%), 7 cases of periampullary tumor (38.9%), 3 cases of gastric

carcinoma (27.3%), and 27 cases (54.0%) of colorectal origin. A surgical intervention decision be upfront/diversion/staged was made in 98/141 cases (69.5%).

It is important to note that the decision to proceed with surgery was ultimately made in collaboration with the patient and their family, considering their circumstances and preferences. The goal of the MDT was to provide the patient with the most appropriate and effective treatment plan based on the best available evidence and expert consensus.

### **Nuclear Medical Interventions:**

The decision to refer the patient for nuclear medical interventions was made in 96/141 cases, and this outcome had a P value of less than 0.001. Neoadjuvant therapy was given in 36 cases, and adjuvant was given in 60 cases. The multi-disciplinary team (MDT) played a crucial role in making decisions about nuclear medicine interventions such as neoadjuvant, adjuvant, and palliative treatment in breast carcinoma. This team approach was beneficial because it allowed for the exchange of ideas, knowledge, and expertise, which led to more informed and comprehensive treatment decisions. For example, in the case of neoadjuvant treatment, the MDT considered the extent of the disease, the patient's overall health, and the potential for complete surgical resection when recommending neoadjuvant therapy. If neoadjuvant therapy was deemed appropriate, the MDT worked together to determine the optimal type and duration of therapy and the timing of surgery. Neoadjuvant therapy was advised in 5 cases (8.1%) of breast cancer, none of the periampullary tumors, 9 cases of gastric cancer (81.8%), and 11 cases of colorectal cancer (22.0%).

In the case of adjuvant treatment, the MDT considered the results of the pathology report after surgery and the extent of disease spread to determine the need for additional therapy. Adjuvant therapy was overall advised in 71 cases (50.3%), with 50 cases of breast cancer (80.6%), 11 cases of the periampullary region (61.1%), 1 case of gastric cancer (9.1%) and 9 cases of colorectal origin (18.0%). None of the patients received palliative treatment. Overall, the MDT approach was an effective way to make decisions about nuclear medicine interventions in carcinomas, as it considers the complexities of the disease and the patient's individual needs and circumstances.

### **Follow-up:**

In 62 reported cases with a 42.4 incidence rate, breast cancer is the most highly occurring malignancy. Of 62 cases, MDTB subjected only 3(4.8%) patients to Breast Conservation Surgery (BCS), and only one received adjuvant therapy after BCS. The follow-up was lost with the rest of the two patients who underwent a similar procedure. The patients that were subjected to Neo-adjuvant chemo-radio were 5 (8%). A total of 57 (92%) patients were subjected to modified radical mastectomy, and a single patient underwent toilet mastectomy. As per MDT, only 8 (14%) patients were withheld from the adjuvant therapy. The remaining 49 (85%) patients undergoing the mastectomy procedure were put on adjuvant Chemo-radiotherapy. The MDTB data suggests that the total number of patients undergoing Radical mastectomy and toilet mastectomy who proceeded to adjuvant Chemoradiation therapy is 58. The only confirmed patients completing the adjuvant therapy are 12(20.6%). There are 4(6.8%) patients still undergoing chemotherapy. The refusal of treatment was observed in 2(3.4%) patients only, and the follow-up was lost for 31(53.4%) patients.

There were 18 patients with periampullary tumors registered in this study. MDTB was administered to 7(39%) patients with the Whipple procedure. The rest of the 11(61%) patients were deemed appropriate for Neo- adjuvant therapy because of advanced malignancies. Out of 7 hepatobiliary and malignant pancreatic cases which went through the Whipple Procedure, only one lost follow-up. 3(43%) patients survived with a regular follow-up. 3(43%) patients out of 7 expired. Only one patient expired in the perioperative period, whereas two (66%) others died within two years of surgery.

A total of 11 patients were registered with gastric- carcinoma. MDTB decided for 3(27%) to receive immediate upfront surgery. After the upfront surgery conduction, only a single patient (9.09%) was

deemed for appropriate adjuvant therapy. The rest two (18.18%) patients did not need any adjuvant therapy. The staging lap and feeding jejunostomy were advised for nine patients, and the number of patients with advanced diseases referred for chemotherapy by MDTB stands at 9. Out of 11, only 3(27%) patients underwent upfront surgery. Out of these 3, only two were referred to adjuvant therapy.

The patients advised staging lap and feeding jejunostomy by MDTB are 9. The death of only 1(9%) patient was reported, and the follow-up was lost with a single patient only. The total number of patients surviving the procedure is 7(78%).

Out of 50 patients with colorectal carcinoma, 18(36%) are categorized under clinical and radiological stage I and II, 20(40%) patients lie in the clinical and radiological stage III, and 12(24%) patients are classified as Clinical stage IV by MDTB. MDTB advised an upfront surgery for all the first and second-stage patients. The MDTB advice for 11(55%) Stage III patients was neoadjuvant therapy. The rest of this category's 9(45%) patients undergo upfront surgery due to partial/ complete obstruction and bleeding due to adjuvant therapy. All 12 stage IV patients were advised neoadjuvant.

A total of 18 patients enlisted in clinical and radiological stage I and II. All patients had regular follow-ups, and no deaths were reported. All 18 patients survived. Of the clinical and radiological stage III patients, 20 of whom MDTB advised 11 for neoadjuvant therapy. Out of these, 11 follow-ups were lost, with two patients, and 4(36.3%) expired. There are only five (54.5%) patients still having ongoing chemotherapy.

Nine patients were advised upfront surgery by MDTB due to partial/complete obstruction and bleeding because of adjuvant therapy. Of these nine patients, 5(55.5%) have ongoing chemotherapy, and four have expired. The Clinical and radiological stage IV patients are 12 in number. All underwent neoadjuvant therapy. Out of 12, 2(16%) expired due to COVID-19 virus. 3(25%) patients switched to the healthcare facility. The follow-up with 4(33%) patients were lost, and 3(25%) patients expired after therapy for reasons other than COVID. All this is presented in table 4 as follows, **Table 4 Followup**

|             |               | Outcome           |         |                |                       |
|-------------|---------------|-------------------|---------|----------------|-----------------------|
|             |               | Ongoing treatment | Expired | Lost Follow-up | Relapse free survival |
| Cancer Type | Breast        | n                 | n       | n              | n                     |
|             | Periampullary | 7                 | 0       | 32             | 17                    |
|             | Gastric       | 4                 | 5       | 5              | 4                     |
|             | Colorectal    | 7                 | 1       | 1              | 2                     |
|             |               | 10                | 13      | 9              | 18                    |

## Discussions:

Multi-disciplinary Tumor Boards (MDTB) are a perfect platform to benefit all the participants, including the patients and the clinicians. The performance evaluation of the MDTB was conducted as a result of this study paying attention to the aspects such as decision-making and adherence to guidelines of national and international platforms. Multi-disciplinary teams (MDTs) offer several benefits in managing carcinoma patients. MDTs improved patient care as MDTs bring together a range of healthcare professionals from different specialties, allowing for the exchange of ideas, knowledge, and expertise. This leads to a more comprehensive and informed treatment approach, resulting in better patient outcomes. These settings also improve diagnostic accuracy and allow for the collaboration of experts from different fields, which can result in more accurate diagnoses and better detection of carcinomas. Better treatment planning can be done as MDTs take a holistic approach to treatment, considering the patient's overall health, the extent of the disease, and other relevant factors when developing a treatment plan. This leads to more effective and personalized treatment plans. Overall, the MDT approach provides a more coordinated and effective approach to managing carcinomas, resulting in better patient outcomes and improved patient satisfaction.



## Conclusions:

MDTB guidelines helped manage the tumors and carcinomas cases presented in Sheikh Zayed hospital Lahore with effective decision-making, centralized control, and constant vigilance in the therapeutic process of several carcinomas. The amendments in radiology and pathology, reduced rate of expiry and mortality, affecting the management plan of SZH for carcinoma treatment, and the provision of standard care are the merits of MDTB. The peer-assisted learning and review of the cases after adjuvant and neo-adjuvant therapies allowed knowledge sharing and better working relationships with the sister institutes resulting in improved patient survival statistics.

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