

# Incidence of Malignancy Related Pericardial Effusion in a Tertiary Hospital

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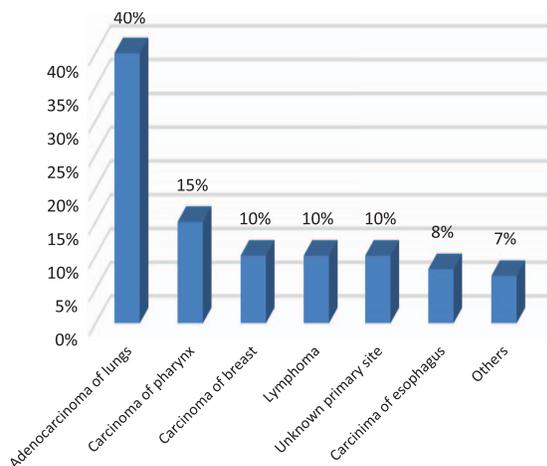
## Introduction:

Back ground: Malignancy related pericardial effusion (PE) may represent a terminal event in patients with therapeutically unresponsive disease. Pericardial tamponade (PT) is a co morbid condition in many diagnosed malignant cases. Selection of patients with malignancies who are responsive to available treatment may achieve significant improvement in palliation. Early detection of pericardial tamponade and appropriate intervention (Pericardiocentesis) or Subxyphoid pericardiectomy may result long term survival benefit.

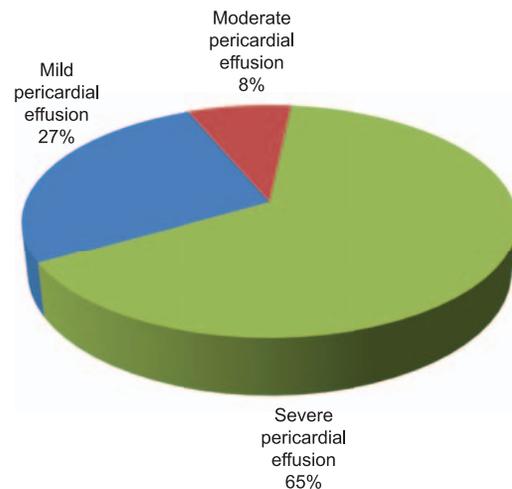
Objective: Early detection and management of PE and tamponade in malignant cases.

Methods: Color Doppler (C-D) echocardiography was done in 260 patients with underlying malignancies on chemo or radiotherapy from oncology department of Delta Medical college and hospital from May 2016 to December 2016. These cases were reviewed retrospectively for clinical features, diagnosis and therapy for their malignancy.

Results: 81% have shortness of breath, sign of pulsus paradoxus and pericardial tamponade were found in 22%



**Fig.-1:** Causal distribution of pericardial effusion with malignancy



**Fig.-2:** Extent of pericardial effusion

and 5% patients respectively. During echocardiography, pericardial effusion was found in 102 patients. 65% have mild pericardial effusion, whereas 27% have moderate and 8% have severe PE. Effusions with malignancy comprising of 40% adenocarcinomas of lung, 15% carcinoma (Ca) of pharynx, 10% Ca breast, 10% lymphoma, 10% is Carcinoma of unknown primary, 8% Ca esophagus and 7% others (Renal, Hepatic, ovary & cheek).

## Discussion:

Malignant pericardial effusion is common feature in patients with disseminated malignancy. The incidence ranges from 5% to 53% in autopsy and clinical studies and varies with the histological diagnosis.<sup>7</sup> Most patients are asymptomatic, but there are chances of developing pericardial tamponade.<sup>8</sup> Carcinoma of lung, breast, lymphomas, leukemia and melanoma are most common tumors to involve the pericardium. Approximately 75% of malignant pericardial effusions are clinically diagnosed.<sup>9</sup> Almost all tumors can potentially involve the pericardium

and result in an effusion. Malignant pericardial effusion often has an insidious clinical onset that can mimic the picture of disseminated carcinomatosis. Occasionally pericardial involvement may be the first clinical manifestation of an undiagnosed malignant tumor.<sup>10</sup> Recognizing its presence are particularly important because of the life-threatening potential of cardiac tamponade. Furthermore, in a review of 55 patients with cancer who had pericardial disease, Thurber and co-workers found that pericardial involvement resulted in or contributed significantly to the cause of death in 85% of patients.<sup>11</sup> Thus, therapeutic interventions directed at controlling this complication of malignancy can, if successful, result in prolonging survival. The overall survival and quality of life of patients with malignant pericardial effusion is dictated primarily by the histological type and extent of the underlying malignant process. For instance, in three recent large series where patients were treated surgically or with pericardial sclerosis, those with non-small-cell lung cancer had a median survival of approximately three to four months, whereas those with breast cancer had a median survival exceeding nine months.<sup>12</sup> About 40% of patients with a symptomatic pericardial effusion and an underlying cancer may have nonmalignant pericardial disease, determining the specific cause is important. In this respect, special attention should be given to those patients who have received prior irradiation to the precordium because the treatment and prognosis of radiation –induced pericarditis are notably different. The differential diagnosis should also include idiopathic pericarditis, infection, hypothyroidism, and autoimmune disorders.<sup>13</sup> In this report we will not discuss the approach to establishing a specific diagnosis but will focus on the management of patients with a known diagnosis of malignant effusion and outline a treatment plan. The criteria for response vary among series; a direct comparison of the results of each therapeutic modality is not possible. In the few larger series, however, the criteria outlined by Smith and associates were usually used.<sup>14</sup> These are as follows: a decrease or disappearance of pericardial effusion lasting 30 days or more assessed by radiography and clinical examination; an absence of symptoms of pericardial tamponade for more than 30 days; and no requirement for pericardiocentesis 30 days after the initiation of local or systemic treatment. In more recent reports, echocardiography has been included to augment the accuracy of evaluating response. There are five major methods of treating malignant pericardial effusion: pericardiocentesis, pericardial sclerosis, systemic chemotherapy, radiotherapy and surgical treatment. The

overall treatment plan depends on several factors such as the presence of hemodynamic compromise, the general medical condition of a patient, expertise available at a particular institution, and the extent and histological features of tumor.<sup>14</sup>

### Conclusions:

Incidence of malignancy related pericardial effusion was a common feature. The findings of this study also highlight the importance of C-D Echocardiography that could be the investigation of choice for early detection of this condition. Then this group could get appropriate management of malignant pericardial effusion, along with active treatment of the primary cancer. Surgical interventions, such as pericardial window operation, may be warranted in selected patients. So that the long term survival benefit could be achieved.

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