

**DBT Sponsered Two Days National Conference on  
A Paradigm Shift for Emerging Paraphernalia in  
Advancement of Cancer Research**

**28 and 29 Feb-2020**

DOI: <https://doi.org/10.37022/WJCMPR.2020.SC1>

**Organized By**



**Nirmala College of Pharmacy**

Affiliated to Kerala University of Health Sciences Thrissur

Approved By Government of Kerala, PCI and AICTE

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## MELIOIDOSIS-AN OVERVIEW IN THE CONTEXT OF BACTERIAL INFECTIONS

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### Abstract

Recently, Melioidosis or Whitmore's disease, has been recognised with increasing frequency globally. It's an infection caused by the Gram-negative bacillus *Burkholderiapseudomonallei*, a soil dwelling bacteria endemic in tropical and sub tropical regions particularly in Australia and Thailand. Many cases were reported in India as well. The majority of patients present with sepsis, but specific clinical presentations and their severity vary depending on the route of bacterial entry, host immune function and bacterial strain and load. Signs and symptoms include cough with normal sputum or non productive cough, high fever, headache and general muscle weakness. It can remain dormant in humans for a prolonged period, disease may present years or decades after initial exposure Treatment requires long-term intravenous and oral antibiotic courses, followed by maintenance of therapy. Recent studies shows that *B. pseudomonallei* exhibits resistance to diverse groups of antibiotics, including third-generation cephalosporins. In addition, its relative resistance to quinolones and macrolides limits therapeutic options. Diagnosis is based on clinical and epidemiological features as well as bacterial culture. The organism is often misidentified by methods used routinely in clinical laboratories. Delays in treatment due to difficulties in laboratory diagnosis often lead to mortality that exceed 40% in some regions. Recently, a study analysed gene expression profiles of 25 gene targets including 19 immune response genes and 6 epigenetic factors in human hosts. The anti-inflammatory gene IL4 was up regulated in Melioidosis patients which may be helpful in proper diagnosis of the disease. This review provide an outline of melioidosis its effect on human beings, challenges faced in diagnosis, risk factors and its prevention.

**Keywords:** Burkholderiapseudomonallei, white mores disease, Melioidosis

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## PREVALENCE OF CHEMOTHERAPY INDUCED CARDIOTOXICITY IN BREAST CANCER TREATMENT

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### Abstract

Breast cancer is the most prevalent cancer in women and the second leading cause of death due to cancer. Therefore, it is a major public health issue and research in this field and advancement in the treatment regimen should be a priority. Chemotherapeutic drugs alone are potent but also used in combination with radiotherapy for increasing the survival rate and lowering the recurrence rate of cancer, but their use can be limited by cardiotoxicity. Anthracyclines, hormone therapy and trastuzumab are the chemotherapeutic agents with the most documented cardiac side effects. During mean follow up of 19yrs, 10.4-7.5% of women died of Cardio vascular disease. The incidence of doxorubicin induced cardiotoxicity was found to be 3-20%, while trastuzumab induced cardiotoxicity was found to be 2-28% resulting in Left ventricular dysfunction. Heart Failure occurred in 8% of patients who received an anthracycline with cyclophosphamide, however the incidence of Heart Failure increased to 27% with addition of trastuzumab. Treatment- and patient-related risk factors play a part in the development of Chemotherapy Induced Cardiotoxicity, therefore the probable risk has to be taken in consideration and given appropriate modification before the chemotherapy. Dexrazoxane can be used as a cardioprotectant during treatment. Liposomal and nonpegylated liposomal doxorubicin can be used as an alternative to suppress cardiotoxicity to an extent. In this article the common drugs with cardiotoxic potential and monitoring are reviewed. This review also includes the use of cardioprotectant agents as prophylaxis and in the treatment regimen.

**Keywords:** Breast cancer, chemotherapy induced cardiotoxicity, anthracycline.

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