

Degree	Year	Name of College & University	Registration number with date of registration	Name of State Medical council
MBBS	1998	LLRM MC Meerut CCS Univ. Meerut	42196 25/04/1998	UPMC
MD/MS	2003	KGMU Lucknow KGMU Lucknow	16261 09/07/2021	UPMC

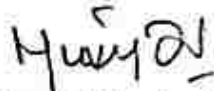


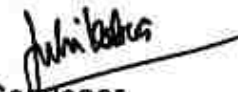
Himalayan Institute of Medical Sciences

Revised Basic Course Workshop

CERTIFICATE OF PARTICIPATION

This is to certify that Dr. Manoj Kumar Singh
Assistant Professor, Department of General Medicine
from S.M.M.H. Medical College, Saharanpur has
participated in the *Revised Basic Course Workshop*
held during 27th to 29th March 2018 by the MCI Regional Centre,
Himalayan Institute of Medical Sciences, Dehradun, Uttarakhand State.


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Sputum Cytology: The Simplest and Emphatic Modality in Diagnosis of Lung Carcinoma and Its Radiological CorrelationRanbeer Singh¹, Manoj Kumar Singh², Sushil Kumar³, Puja Singh⁴¹Professor, Department of Pathology, Government Medical College, Saharanpur, UP²Associate Professor, Department of Medicine, Government Medical College, Saharanpur, UP³Assistant Professor, Department of Paediatrics, Government Medical College, Saharanpur, UP⁴Associate Professor, Department of Pathology, Bundelkhand Medical College, Sagar, MP

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Abstract

Background: Lung cancer remains one of the leading causes of cancer-related mortality worldwide. Early diagnosis plays a crucial role in improving patient outcomes. Sputum cytology is a simple, non-invasive, economical, and easily repeatable diagnostic modality that provides valuable cytomorphological information. It is particularly useful in patients who are unfit for invasive procedures such as bronchoscopy or transbronchial needle aspiration.

Methods: This retrospective study was conducted in the Department of Pathology, Government Medical College, and Saharanpur over six years (2018–2024). A total of 113 symptomatic patients presenting with radiological abnormalities were evaluated. Three consecutive morning sputum samples were collected from each patient. PAP, Giemsa, and Ziehl-Neelsen staining were performed. The cytological findings were correlated with chest X-ray and CT chest when available. Sensitivity and specificity of sputum cytology were calculated based on malignant vs. non-malignant diagnostic outcomes.

Results: Among 113 patients, sputum cytology detected malignant cells in 39 (34.51%) patients—34 males and 5 females. Squamous cell carcinoma was the most common subtype (18 cases, 46.15%), followed by small cell carcinoma (12, 30.77%), adenocarcinoma (7, 17.95%), and large-cell carcinoma (2, 5.13%). Sputum cytology showed a sensitivity of 100% (all confirmed malignancies detected cytologically) and specificity of 90.54% (excluding malignancy in non-cancer cases). Central lung masses on chest X-ray correlated significantly with squamous cell and small cell carcinomas.

Conclusion: Sputum cytology is a highly effective, low-cost, safe, and reliable diagnostic method for early detection and subtyping of lung carcinoma. It is particularly beneficial in elderly and clinically unstable patients where invasive diagnostic procedures are contraindicated.

Keywords: Sputum Cytology, Lung Carcinoma, Radiological Correlation

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Introduction

Lung cancer is one of the major global health burdens and remains the leading cause of cancer-related deaths. Its prognosis depends largely on the stage at which it is diagnosed. However, due to vague early symptoms and limited access to advanced diagnostic facilities, a significant proportion of cases are detected late. [1,2] Sputum cytology, a form of exfoliative cytology, offers a simple, safe, and non-invasive tool for diagnosing lung cancer by evaluating exfoliated malignant cells from the bronchial epithelium. [3,4,5] It has demonstrated high diagnostic utility particularly in centrally located tumors, such as squamous cell carcinoma and small cell carcinoma. [6,7,8] Despite newer modalities like bronchoscopy, CT-guided biopsy, and EBUS, sputum cytology

continues to have considerable value—especially in settings where invasive procedures are risky, unavailable, or unaffordable. [9,10,11] This study evaluates the diagnostic efficacy of sputum cytology in lung cancer, correlates cytological findings with radiological features, and calculates sensitivity and specificity using 6 years of retrospective data.

Materials and Methods

This retrospective observational study was conducted on data between January 2018–December 2024 at Department of Pathology, Government Medical College, and Saharanpur. A total of 113 patients participated in this study.

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Bagasse dust related morbidities and its determinants among workers at sugarcane factory of District Saharanpur

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ABSTRACT

Introduction: India's sugarcane factories are growing by creating job opportunities for thousands of workers with varying educational, professional and socioeconomic backgrounds. These factories are a source of several hazards that severely harm the workers' health. **Aims & objectives:** To find prevalence of morbidities due to bagasse dust exposure among sugarcane factory workers and various factors associated with them. **Material and methods:** Cross sectional study was conducted in randomly selected Government sugarcane factory of District Saharanpur, among 343 factory workers for a period of one year. Pretested semi structured questionnaire was used to collect data. Collected data was analysed using appropriate statistical tests. **Result:** Overall prevalence of bagasse dust related morbidities was 29.2%. Maximum workers suffered from chronic cough (21.6%), chronic cough with breathlessness (2.3%), and chronic cough with phlegm (1.7%), chronic phlegm (1.5%), breathlessness (1.2%), wheeze (0.9%). These morbidities were significantly higher among those belonging to socioeconomic class III (37.4%), working in processing section (68.4%) and those working for > 8 hours/day (38.7%). **Conclusion:** Occupational hazards have deleterious effect on the individual health and safety, and on organizational effectiveness. These are preventable to a larger extent. Regular training should be conducted to educate workers to adopt proper safety measures.

KEYWORDS

Sugarcane Factory; Occupational Health Problems; Bagasse Dust; Determinants

INTRODUCTION

The sugarcane industry plays a crucial role in the economy of nation, especially in rural areas, by providing employment and contributing to local development. The biggest sugarcane producer in the world is Brazil followed by India mainly Maharashtra, China and Thailand (1). Workers in this sector face numerous occupational health hazards such as noise, heat and respiratory problems from dust and particulate matter (2). Roughly 30% to 50% of workers are exposed to occupational health hazards and as estimated by

WHO about 120 million of occupational injuries resulting in 200,000 fatalities annually (3). The 2030 Sustainable Development Goals (SDGs) aim to "ensure healthy lives and promote well-being" and "decent work" for all whatever their economic or social status (4). Exposure to bagasse dust leads to chronic respiratory infections, such as bagassosis, extrinsic allergic alveolitis and organic dust toxic syndrome, affecting workers' health, reducing productivity, and impacting their quality of life (5,6). In India, AB Singh and TS Pandit found that 42.5% of sugar refinery workers exposed to bagasse

Epidemiological risk factors of hepatitis C infection in district Saharanpur, Uttar Pradesh: A case-control study

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ABSTRACT

Background: Hepatitis C virus (HCV) infection is a globally prevalent disease and is a major cause of healthcare burden in India. Gaining knowledge of its epidemiology and identifying risk factors for HCV transmission will help in targeted screening of people who are at risk for HCV. Therefore, this study was planned to study epidemiological risk factors of HCV infection in Saharanpur district. **Methods:** A hospital-based case-control study was conducted at a tertiary care hospital in Saharanpur on 254 subjects (127 cases and 127 controls). Cases and controls were matched by age (± 10 years), gender and religion. Detailed information on socio-demographic factors and previous exposures to selected risk factors was collected via detailed interviews of the subjects. **Results:** Odds of having HCV infection was significantly high, among cases with diabetes (OR: 0.03), history of tobacco smoking (OR: 0.22), habit of sharing of sharp objects like razors and blades (OR: 0.40), received blood transfusion (OR: 0.41), got haircut/shaving done from roadside barbers (OR: 1.39) and cases who received dental procedure from private hospital (OR: 1.49). Multivariate analysis identified smoking of tobacco, diabetes, sharing of sharp objects like razor, haircut/shaving from roadside barbers and dental procedure in private as independent risk factors for HCV infection. **Conclusion:** The study identified multiple risk factors for acquiring HCV infection. Increasing community awareness about modes of transmission and risk factors of HCV infection is a must. Appropriate interventions should be taken mainly targeting high risk population and their close relatives.

Keywords: Case-control study, epidemiology, HCV, Hepatitis C virus infection, risk factors

Introduction

Hepatitis C virus (HCV) is a global health problem which was declared as a global public health problem by the World Health Organization (WHO).¹ HCV is a bloodborne virus and most of the infections occur through exposure to blood

from unsafe injection practices, unsafe health care, unsterilized blood transfusions, unsterilized drug use, unsafe sexual practices and in-utero transmission from mother to child.² The virus shows different presentation of signs and symptoms and can cause both acute and chronic hepatitis. Acute HCV infections are usually asymptomatic and most of them do not lead to a life-threatening disease. About 25% of HCV cases develop acute hepatitis and 75%-85% of exposed individuals develop chronic disease further leading to life-long illness such as fat-liver hepatitis, liver cirrhosis and cancer.^{3,4} Cases which present

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with chronic HCV infection, the risk of cirrhosis ranges from 15% to 50%.⁵

Globally, 7% of the population is infected with HCV of which more than 71 million need anti-HCV treatment while more than 1,70,000 die every year due to HCV-related complications.^{6,7} In India, weighted anti-HCV seroprevalence in low risk population is close to 0.49%, and the burden is estimated to be around 5 million.^{8,9} The overall prevalence of HCV infection in India varies from 0.5% to 1.5%.¹⁰ Some of the states in India contribute significantly to the HCV burden, but there are pockets of high prevalence in various states across India. Early detection and treatment can prevent serious liver damage and improve long-term health. Although there is no vaccine for Hepatitis C, but it can be treated with antiviral medications.

WHO organizes annual World Hepatitis Day campaigns to increase awareness and understanding of viral hepatitis and where the 20th hepatitis elimination target. HCV infection is associated with disease exposures. Therefore, it is essential to identify these variables for public health planning to prevent and control HCV infection. WHO identified major gaps in HCV prevention, testing and treatment among vulnerable populations and advocates integrating community-level services to fill these gaps.¹¹

While there are numerous studies documenting the significance of HCV as an important public health problem in developing countries, but there is paucity of epidemiological data and risk factors from developing countries like India. There is a need for more studies for a better understanding of epidemiological risk factors of HCV infection in India. Therefore, a need was felt to fill the lacuna as instance by conducting a study on HCV patients in district Saharanpur, Uttar Pradesh. The study aimed to identify the epidemiological risk factors of HCV infection along with studying the distribution pattern of HCV infection cases.

AIMS and Methods

Study design and population

A hospital-based case-control study was conducted as a tertiary

Each eligible case was matched with a control (1:1) by using following parameters: age (± 10 years), gender and religion.

Inclusion criteria for study participants were:

- Study participant (both male and female) should be 18 years or above.
- Study participant should be a resident of Saharanpur and has been in the district for at least a period one year.

Exclusion criteria for study participants were:

- Those who did not give consent to participate in the study or showed hostile behavior.
- Patient who was HCV reactive by Rapid antigen test but TRUNAT showed anti-RNA copies (not reactive).
- Patient having signs and symptoms of liver disease (not reactive).

The sample size was calculated using the formula of Daport for matched case-control analysis.¹² As one case was matched with one control, it was taken to be 1 and it was taken to be 0.01. Using risk factor common results from March 25 et al. for history of Hepatitis C in family, it was taken to be 0.30 and p, as 0.05.¹³ Taking type I error to be 0.05 and power as 80%, the sample was calculated to be 236, i.e. 128 each of cases and controls. However, the final sample size for the study was 254 as one case could not be matched for adequate control hence, the case was removed from the study.

Study procedure

Cases were selected from the OPD of Medicine department where all patients suspected of HCV infection were sent for Rapid Antigen Test. This was followed by TRUNAT of Rapid Antigen Test was found to be negative. The patients who fulfilled the inclusion and exclusion criteria were enrolled as cases.

Controls were recruited from the Inpatient Department (IPD) Hospital under the Department of Medicine. As per the hospital policy, HCV Rapid Antigen Test was conducted for all the IPD patients because of the high prevalence of Hepatitis C in the area. A list of all the non-reactive patients was obtained and