Shaukat Khanum Memorial Cancer Hospital & Research Centre

# Declining Age of Presentation in Common Carcinomas: A 25-Year Retrospective Analysis

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## 1. OBJECTIVE

To analyze temporal trends in age of presentation for five common malignancies over 25 years at SKMCH and determine if there is significant decline in patient age at diagnosis.

**Specific Aims:**

- Evaluate year-by-year changes in mean age
- Identify cancer types with most significant decline
- Assess implications for screening strategies

## 2. METHODS

**Study Design:** Retrospective observational study

**Study Period:** 2000-2025 (25 years)

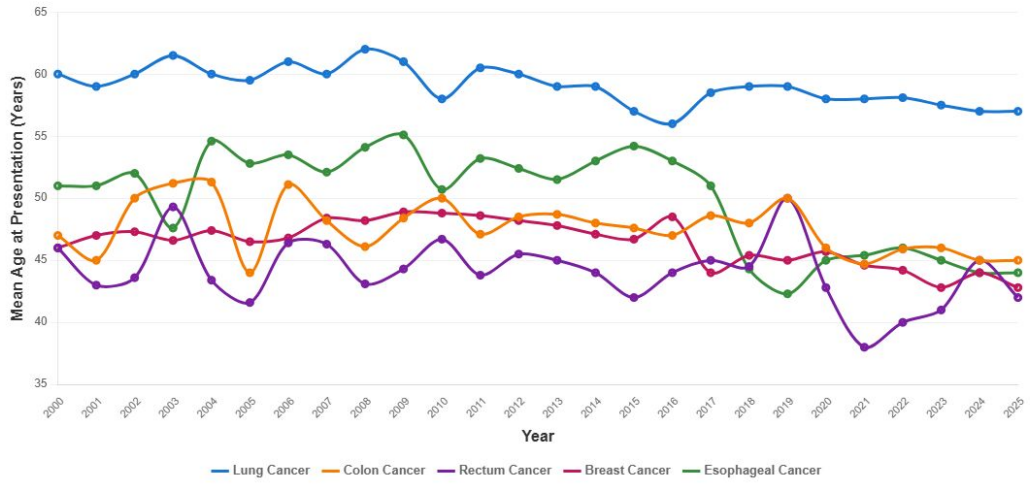
**Inclusion Criteria:** All patients with histologically confirmed carcinoma of lung, colon, rectum, breast, and esophagus at SKMCH

**Statistical Analysis:** Linear regression analysis. Statistical significance: $p < 0.05$

**Sample Size (N = 41,251)**

| 29,200 | 3,939 | 3,362 | 3,325 | 1,425 |
|---|---|---|---|---|
| Breast | Esophagus | Lung | Colon | Rectum |

## 3. TEMPORAL TRENDS IN AGE OF PRESENTATION




## 4. RESULTS

**Key Findings:** Significant decline in mean age at presentation observed across all cancer types over 25 years ($p < 0.05$)

| Esophageal Cancer | Rectum Cancer | Breast Cancer |
|---|---|---|
| **-7.0 years** | **-4.0 years** | **-3.2 years** |
| 51.0 → 44.0 years (13.7% decrease) | 46.0 → 42.0 years (8.7% decrease) | 46.0 → 42.8 years (7.0% decrease) |

| Lung Cancer | Colon Cancer |
|---|---|
| **-3.0 years** | **-2.0 years** |
| 60.0 → 57.0 years (5.0% decrease) | 47.0 → 45.0 years (4.3% decrease) |

**Statistical Significance:** All trends demonstrated p-value < 0.05, indicating statistically significant decline in age at presentation across all five malignancies.

## 5. CONCLUSIONS

- **Significant decline** in age of cancer presentation demonstrated across all five common malignancies over the 25-year study period
- **Esophageal carcinoma** showed the most dramatic decrease (7 years), followed by rectal (4 years) and breast cancer (3.2 years)
- **Younger patient population** presenting with cancer warrants reconsideration of current screening age thresholds
- **Public health implications:** Earlier screening initiation and enhanced awareness campaigns targeting younger age groups may be necessary
- **Further research** needed to identify risk factors driving this demographic shift in cancer presentation