ACP American College of Physicians Leading Internal Medicine, Improving Lives | Saudi Arabia Chapter

American College of Physician Saudi Chapter
Annual Meeting Poster Competition 2024

ABSTRACT SUBMISSION FORM
Pre-evaluation Phase

Dear respected participants in the ACP Saudi Chapter, kindly fill up this Abstract Submission Form and email to: **acpsaudichapter@gmail.com** **(Deadline: August 15)**

Participant Name: Nasser Fahad AlSunbul

Address: **City:** Riyadh **Center/Hospital:** King Saud University Medical City – King Khalid University Hospital

Mobile: 0507153192 **Email:** NasserAlSunbul@Outlook.com

Principal Investigator: Dr. Nizar Abdullah AlGarni

Co-authors: 1- Dr. Habib Ullah Chaudry 2- Nasser Fahad AlSunbul

3- Ahmed Tahir Alhawamedeh 4-

Presentation type: Please consider this abstract for

☐ **Oral presentation** ☑ **Poster presentation**

Participant's Role in this work:

Litreature Review Manuscript writing, Data plotting, Data Collecting, and Reviweing

Important rules:

1- **Candidate must be (Medical students – Intern - R1 - R2 - R3 - R4) in Internal Medicine Training Program of SCFHS.**

2- **The submitted abstract was not presented in previous AMTRD nor got published.**

Instructions for abstract construction:

Please use M.S Word, font type Times New Roman, Size 12 and single space. **Maximum number of words is 300.**
Please note that for poster presentations, the post dimensions are: **Width: 150 cm x Height: 120 cm**.
Abstracts to be constructed as follows:

- Title
- Background/Purpose
- Methodology
- Results

- Conclusion

Please type your abstract information in the space in the next page:

THE INCIDENCE AND RELATED FACTORS OF PULMONARY EMOBLISM IN SCOLIOSIS SURGERY PATIENTS: A RETROSPECTIVE STUDY OF ONE UNIVERSITY HOSPITAL

Background: Pulmonary embolism (PE) is an uncommon but reported complication of fusion surgeries, particularly in scoliosis. A recent Saudi Arabian study highlighted a 30% prevalence of scoliosis among adolescents, necessitating a deeper understanding of potential complications. Literature reports PE rates following spine interventions ranging from 0.6% to 31%. Adolescent idiopathic scoliosis (AIS) is the predominant form in Saudi Arabia.

Objectives: To assess the incidence of PE in scoliosis surgeries at our institute, focusing on AIS and congenital scoliosis; identify potential risk factors, such as smoking, comorbidities, surgical duration, and postoperative complications; and explore the effectiveness of pneumatic dilation as a preventive measure against PE.

Methods: This retrospective cohort study analyzed data from 905 orthopedic spine procedures since implementing Electronic Health Record in 2015 and until 2023 In King Khalid University Hospital (KKUH), identifying 179 scoliosis-related cases. After refining based on age and removing duplicates, 85 patients were analyzed. Data included demographics, postoperative complications, perioperative assessments, and prophylactic measures against thrombotic events. Using RStudio for statistical analysis, categorical variables were presented as frequencies and percentages, and numerical variables as median and interquartile ranges (IQRs). Associations between patient characteristics and outcomes were examined using Fisher's exact test for categorical variables and the Wilcoxon rank-sum test for numerical variables, with significance set at $p < 0.05$.
Results: Among the studied cases, 71.8% were female, and 28.2% were male. The predominant comorbidity was bronchial asthma (18.5%), with diabetes mellitus type 1 (7.4%) also observed. The median age at surgery was 17.0 years, with a median surgical time of 368.5 minutes. Hospital stay duration had a median of 6.0 days. Intraoperative bleeding had a median volume of 500.0 mL. Pneumatic compression stockings were administered to all patients. A spiral computed tomography (CT) was performed for seven patients (8.2%), revealing a PE incidence of 1.2% (one case). No significant associations were found between patient characteristics and PE development.

Conclusion: Although rare, pulmonary embolism can be a complication of scoliosis surgery, which is particularly pertinent given the high rate of adolescent scoliosis in Saudi Arabia. In our study, we assessed the risk of pulmonary embolism (PE) in 85 adolescents with idiopathic scoliosis who underwent corrective surgery. We found a low incidence of PE at 1.2%, consistent with previous studies. Extended surgical duration appeared to be a potential risk factor.