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| ORIGINAL RESEARCH PAPER                                                                         | General Medicine  |
| <b>THYROTOXICOSIS INDUCING ATRIAL FIBRILLATION: AN ELEVATED RISK OF MORBIDITY AND MORTALITY</b> | <b>KEY WORDS:</b> |

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| Dr. Nikhil Korgaonkar |                                       |
| Dr Manohar Joshi      | Associate Professor, General Medicine |
| Dr. Smita Patil       | Head of Department, General Medicine  |

**BACKGROUND**

Thyrotoxicosis has numerous cardiovascular implications, with atrial fibrillation (AF) being the most significant in clinical practice. The presence of both thyrotoxicosis and AF substantially heightens morbidity due to stroke and heart failure, as well as increases mortality rates when compared to AF in individuals with normal thyroid function.

**Objectives:** This study aims to examine the pathophysiology, clinical consequences, and outcomes associated with thyrotoxic AF, focusing on its increased risk profile and management approaches.

**METHODS**

A narrative literature review was conducted utilizing standard medical references (Harrison's Principles of Internal Medicine, Braunwald's Heart Disease), international AF guidelines (ACC/AHA 2023, ESC 2020), and epidemiological studies from India (Unnikrishnan & Menon, ICMR surveys). Priority was given to observational cohort and registry data. The primary emphasis was on overt thyrotoxicosis, while subclinical forms were included when pertinent.

**RESULTS**

Atrial fibrillation complicates around 10–25% of cases of overt thyrotoxicosis. An excess of thyroid hormone increases β-adrenergic sensitivity, shortens the atrial refractory period, and encourages atrial stretching/remodeling, which predisposes individuals to arrhythmias. Observational studies indicate a 3–5-fold heightened risk of ischemic stroke, a greater occurrence of acute decompensated heart failure, and an increase in all-cause mortality when compared to non-thyrotoxic AF. Data from India highlight delayed diagnoses, insufficient use of anticoagulation, and inconsistent follow-up as significant factors contributing to poor outcomes. Achieving euthyroidism results in sinus rhythm restoration in approximately 60–70% of patients; however, persistence of AF is frequent among older patients, those with structural heart issues, or those with a prolonged duration of AF.

**CONCLUSION**

Although thyrotoxic AF is potentially reversible, it is associated with disproportionately high morbidity and mortality rates. Prompt correction of thyroid levels, careful management of heart rate and rhythm, and systematic use of anticoagulation are crucial. In India, a multidisciplinary approach to thyroid and cardiac care is essential.