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Pathophysiology of Atrial Fibrillation
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Introduction

Aging is an unavoidable human phenomenon which poses numerous challenges for the healthcare system. In the healthcare setting, there is an increased risk of bleeding and stroke in elderly patients. When evaluating bleeding risk, a comprehensive approach is essential to ensure the best possible care. This paper focuses on the pathophysiology of atrial fibrillation (Afib) and the implications for nursing care in elderly patients with this condition.

Pathophysiology

The heart's natural pacemaker is the sinus node (SN). SN makes electrical waves that provide the heart's rhythm. However, in Afib, the SN no longer provides a consistent rhythm, causing the atria to contract in an unpredictable manner. This leads to a chaotic electrical impulse that results in an irregular heartbeat.

Signs and Symptoms

- Irregular and rapid heartbeat
- Heart palpitations or fluttering inside the chest
- Shortness of breath
- Tripping or dizziness

Risk Factors

- Prior heart attack or heart disease
- High blood pressure
- Diabetes mellitus
- Obesity

Chronic Heart Failure Score and Risk Criteria

<table>
<thead>
<tr>
<th>CHADS2 Score</th>
<th>Risk Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No risk factors</td>
</tr>
<tr>
<td>1</td>
<td>Prior heart attack or heart disease</td>
</tr>
<tr>
<td>2</td>
<td>diabetes mellitus or obesity</td>
</tr>
<tr>
<td>3</td>
<td>age 75 to 79 years</td>
</tr>
<tr>
<td>4</td>
<td>age 80 years or more</td>
</tr>
</tbody>
</table>

Implications for Nursing Care

- Educate patients and family members on the risk factors and signs and symptoms of Afib.
- Recognize patients at increased risk for stroke from Afib through use of the CHADS2 score for indications of Afib.
- Recognize patients at risk for bleeding (e.g., patients at risk for falls) with use of the HAS-BLED score.

Conclusion

Balancing the risk of stroke against the risk of bleeding related to falls is a commonly encountered conundrum in older patients with Afib (Hagerty, 2017). People with untreated or undertreated atrial fibrillation are at high risk for thromboembolism. To lower that risk, anticoagulation therapy is recommended. This increases the risk of bleeding complications and a potentially devastating outcome. Risk stratification for both stroke and bleeding can help guide informed decision making (Cutugno, 2015).

References

Hagerty, S. (2017). Educational video: Atrial Fibrillation. Available at: https://www.heart.org/edmgr/articles/2017/05/10/Atrial_Fibrillation_Update.aspx
Heart.org, 2018. CHADS2-VASc Score for Stroke Risk Assessment in Atrial Fibrillation. Available at: https://heartpublic.wcm.cuny.edu/guidelines/dynamicpage.php?pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&sid=0&pg=23&tid=120&side