York Teaching Hospital NHS
NHS Foundation Trust

Summary Sheet

Frailty

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Definition

Frailty is defined as a multidimensional syndrome of decreased physiological and cognitive reserve which increases vulnerability to adverse health outcomes such as significant decline in functional ability, long term disability, prolonged post-operative recovery, and death [1,2].

Importance of Frailty

Frailty is often not assessed pre-operatively and has a major impact on outcome. There is evidence to suggest that frailty may increase the risk of developing complications after surgery and it has been estimated that 25-50% of patients over the age of 85 already have established frailty[3,4], with affected patients having a three-fold increased risk of death within 90 days of surgery[5]. This is important because the number of older adults undergoing surgery is increasing as our population is ageing. It is estimated in England, that 2.5 million people over the age of 75 years underwent surgery between years 2014 and 2015[6], as opposed to just under 1.5 million between 2006 and 2007[7]; 30% of the 2.5 million were over the age of 85 years[6].

Whilst advanced age is recognised as carrying an increased risk of mortality and morbidity after surgery, frailty is a better predictor of mortality and morbidity[8,9]. Early screening and diagnosis of frailty may help facilitate the identification of vulnerable high-risk surgical patients. Optimisation of associated modifiable risk factors, and development of comprehensive perioperative management plans; including early initiation of shared decision making as to the appropriateness of high risk surgery in at risk individuals.

Screening Tools

Several screening tools are available to capture frailty. One of the most widely used screening tool is the Clinical Frailty Scale (Figure 1)[10] in which the assessor makes a judgment about the degree of a person's frailty based on clinical data, using a modified 9-point ordinal scale. Information about cognition, mobility, function and co-morbidities based on the history and physical examination are used to assign a frailty level from one (very fit) to nine (terminally ill with a life expectancy <6 months).

This tool is simple to administer and it effectively estimates important outcomes, such as survival and institutionalisation.

Figure 1- Clinical Frailty Scale

Summary

With an increasing aging population in the UK, determining the level of frailty of patients presenting for surgery is of utmost importance. Frailty is a significant predictor of post-operative morbidity and mortality and every effort should be made to identity at risk patients early so that the necessary comprehensive perioperative management plans can be put in place. Figure 2 demonstrates the balance scale analogy, which looks at the post-operative risk in non-frail and frail individuals. On the left is a non-frail individual; the majority of the measured geriatric domains are normal resulting in tilting the scale towards "better" post-operative outcomes. In contrast, on the right is a frail individual; the majority of geriatric domains are abnormal (or deficits) resulting in tilting the scale toward "poor" post-operative outcomes[11].

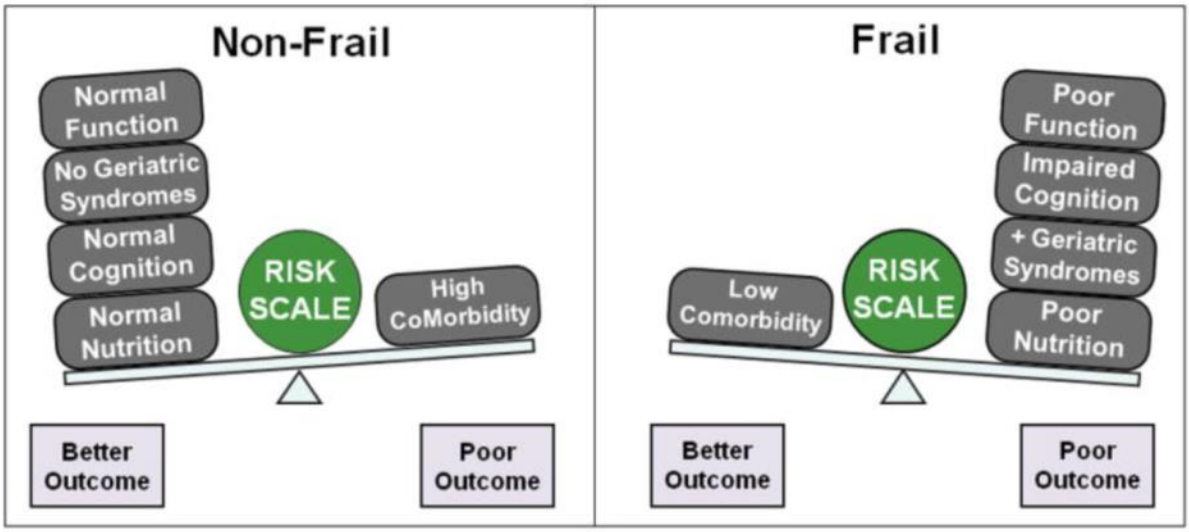

Figure 2 - Summing Geriatric Assessment Deficits to Determine Post-Operative Risk: The Balance Scale Analogy

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