THE EFFECT OF AGE ON OUTCOMES IN ROAD TRAFFIC ACCIDENT PATIENTS

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Introduction:
Road traffic accidents (RTA) are the second commonest cause of accidental death in people aged over 65. The phenomenology and resource utilisation of Irish RTA patients is not documented.

Methodology:
We studied older RTA patients admitted to two Irish trauma centres in 1993. Of 525 patients, 42 (8%) were aged over 65. We compared 38 patients aged 16-64 years for comparison (selected at random) and reviewed the notes in detail.

Results:
Elderly patients were mostly pedestrians (59%); 21% were drivers and 8% on public transport. Younger patients were mostly drivers (37%), cyclists (24%) or motorcyclists (16%). Older patients had a higher median Injury Severity Score (p < 0.05), were more likely to be female (p<0.05), involved in RTA’s between 9am-5pm (p<0.01) and have pre-existing medical conditions (p<0.001).

The following were significantly increased in older patients (p values): surgical (p<0.01), medical (p<0.01) and therapist workload (p<0.05), complications (<0.0001), length of stay (<0.01). Less elderly were discharged directly to home (p<0.05).

Conclusions:
RTA’s in the elderly are associated with different causes, outcomes and implications for workload than RTA’s in younger people. Strategies to reduce the mortality and morbidity associated with RTA in the elderly should emphasize a) older pedestrians during daytime hours, b) attention to safety in public transport. Treatment must ensure adequate medical and therapist input to anticipate higher complication rates.

INCREASED OXIDATIVE STRESS IN AGEING AND AGE-RELATED DISEASES

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Introduction:
Oxidative stress occurs when there is an imbalance between harmful free radicals and protective antioxidants such as glutathione (GSH). The resultant cellular damage which has been implicated in normal and pathological ageing is characterised by increased lipid hydroperoxides (LHP). We compared GSH and LHP concentrations in healthy young and elderly people and patients with varied pathology (acute illness).

Methodology:
We studied 66 healthy young (aged 20-39 y), 58 community-based healthy elderly (60-84 y) and 46 elderly patients (60-97 y) attending medical out-patients or hospitalised. Total plasma GSH was determined by enzyme rate assay and plasma LHP by ferrous oxidation of xylene orange.

Results:
In healthy elderly people there was a significant reduction in GSH (mean±sd: 0.29±0.09 vs. 0.54±0.19uM p<0.0001) and an increase in LHP (3.14±1.50 vs. 2.14±1.38µM p<0.01) compared with the young. Age-adjusted GSH was further reduced (0.32±0.09 vs. 0.38±0.10uM p<0.01) and LHP increased (5.80±3.71 vs. 2.38±1.45µM p<0.0001) in elderly patients. This was most obvious in the m-patients.

Conclusion:
Normal ageing is associated with a decline in GSH and an increase in LHP concentrations indicating an overall increase in oxidative stress. During acute illness there appears to be a further increase. Although these results are preliminary they may have implications for antioxidant treatment in age-related disease.