

The Use of Adrenergic Blockade in the Treatment of Geriatric Anxiety/Agitation

Anxiety and agitation in geriatric patients with central nervous system disease (including but not limited to organic brain syndrome with dementia) is frequently caused by major disturbances in normal autonomic nervous system function. A major contributor to these neuropsychiatric dysfunctions is abnormal activation of the sympathetic nervous system. This causes inappropriate secretion of adrenergic hormones (adrenalin and others). This excess production of adrenergic hormones and neurotransmitter peptides occurs both peripherally and in the central nervous system. Further, this excess production occurs as both an increase in baseline secretion and as an excessive secretion response to stress and external stimulation. This in turn causes abnormal alertness, wakefulness, anxiety and agitation.

Administration of clonidine, an alpha adrenergic blocking agent and propranolol (and others) a beta adrenergic blocker, results in a decrease to normal or near normal levels of circulating and CNS adrenergic hormones/peptides. This allows the resumption of a more normal level of sympathetic function/response. This use of these agents frequently allows a reduction or discontinuation of other psychotropic agents used to treat anxiety/agitation. Finally, there is extensive medical evidence that this excessive activation of the sympathetic/adrenergic system results in other negative medical consequences, most notably on the cardio-vascular system.

This pharmacologic regimen represents an approach based on restoring normal sympathetic autonomic tone and avoiding excess or, in some cases any, use of anxiolytics/neuroleptics. This further promotes more normal cardiovascular function.

When psychotropic medication is necessary for agitation or anxiety, low or moderate dose benzodiazepines (e.g. ativan, xanax, valium) are often adequate to meet the patient's needs if they have been pre-medicated with anti-adrenergic medications. The use of low/moderate dose benzodiazepines is preferable to using neuroleptics. Benzodiazepines have a more positive side effect profile and fewer co-morbidities than neuroleptics and are generally better tolerated in an elderly population.