Atomoxetine in severe comorbid male ADHD-adolescents with antisocial behaviour – clinical in-patient data and review of the literature

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Introduction

Severe cases of ADHD in adolescents often occur in considerable comorbidity with several other psychiatric disorders such as

- PTSD,
- bipolar disorder,
- severe affective dysregulation
- addiction problems and/or
- antisocial and delinquent behaviour.

The MTA-study as well as other longitudinal studies have shown that comorbidity is a problem throughout childhood and adolescence particularly in boys and has to be considered as an important part of a sustainable therapy planning.

As anxiety, PTSD and ADHD can combine with antisocial impulsivity and delinquency as presenting symptoms, these high-risk patients need a long-term multimodal therapy in cluding 24 hour ADHD symptom reduction.

The administration of Methylphenidate (MPH), either in immediate release (IR) or in retarded form (RF) can be a solution in cases with clinically important distractibility and primarily academic disadvantages.

Most of these patients have received an IR or RF-MPH–therapy in their childhood but did not recognize a subjectively positive outcome. They stop any medication during early adolescence (age 11-13) and return to the question of the usefulness of pharmacotherapy when having developed severe social and legal problems.

When examining the symptom and the treatment history of latter delinquent boys, affective problems such as nightmares, phobias, anxiety and affective dysregulation rarely were considered as an important problem in those children, who began early in life with antisocial behaviour.

This refers to diagnostics as well as parent attentiveness and educational approaches. The patients themselves often remember their anxiety or depression side of the ADHD-syndrome as subjectively stressing and being left alone.

So, when re-establishing a multimodal treatment in comorbid ADHD-adolescents with legal problems and antisocial behaviour apart from re-diagnosing the syndrome the clinician has to treat «both sides of the story».

Scientific evidence and a clinical empirical approach have to be combined to treat these adolescents thus ensuring individual and familial well-being as well as reducing societal and criminal dangers.

In this situation an atomoxetine treatment can be the base of a new phase of treatment in adolescents whose motivation to treat «both sides of the story».

ADHD has been diagnosed (and treated) in 40-50% of these cases in childhood years prior to admission and after a careful re-diagnosing procedure can be confirmed as a remaining major problem in 25-30%.

Of these cases sub-threshold affective disorders can be found in three quarters of the cases. Atomoxetine has been administered in 25% of the cases.

MPH has been used in 100% of the cases. Compliance and adherence problems can be easier controlled than in an open out-patient setting.

Results I: review of the literature

In particular pharmacological treatments of multimorbid adolescent have not been subject to many randomized control trials, only family therapy was well examined in adolescent addiction patients with comorbidity. Therefore no useful scientific or EBM-guidelines exist for this specific group of comorbid patients.

There is no systematic evidence of the use of Atomoxetine in particular adolescent high-risk groups with combined anti-social, affective and ADHD features.

Therefore clinical guidelines as well as expert opinions had to be used.

Results II: clinical case series

From 51 in-patients treated between 3/2010 and 3/2013, nine were administered atomoxetine as a drug against distractibility, attention deficit and impulsivity (see Tab. 2).

Literature: please contact the author via oliver.bilke-hentsch@somosa.ch  Conflict of interest: there is no financial funding and no conflict of interest in this topic.

The outcome of Atomoxetine-treated patients without severe psychopathic features or schizotypic disorder is positive according to the individually planned therapy aims. Affectional disturbances as well as anxiety could be reduced after some weeks of medication and adaption of dosage.

Discussion

When systematic in-patient therapy with a multimodal concept has to be administered in severe cases due to differential indication (see Tab. 3), there is an option to use Atomoxetine either instead of Methylphenidate or as a basis of a school-focused MPH-therapy. When affective dysregulation is an important part of a complex multimorbid symptomatology, atomoxetine may be the drug of first choice.

Tab. 2 Overview of Atomoxetine-patients and their outcome

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<th>Code</th>
<th>Diagnosis</th>
<th>ADHD, MDD, PTSD</th>
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Tab. 3 Differential pharmacological indications:

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<th>Diagnosis</th>
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<th>Antidepressant</th>
<th>Atypical antipsychotic</th>
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On the other hand, higher dosages can be better monitored due to the fact that there is a considerable proportion of multimorbid boys that seem to be rapid-metabolizers.

Clinical guidelines, expert opinions and the own clinical experience support the impression that Atomoxetine could be useful in high-risk groups of ADHD-patients suffering from anxiety-triggered impulsivity and depression-related aggressivity and not in psychopathic or antisocial personalities.

Considering multimorbidity as well as the adequate individualised dosage (there exist a high proportion of rapid-metabolizers) and the overall multisystemic treatment concept atomoxetine may be a useful treatment opportunity in this specific group of patients.

As this high-risk group needs intensive care and resources the whole adult life when not treated properly in adolescence, further systematic research is needed to evaluate long term pharmacological strategies for these patients.