

Ketamine treatment for depression in elderly inpatients: an observational case series

Henrik Bjørgaas Helle¹, Audun Osland Vik-Mo^{1,2}, Dag Årslund¹, Benedikt Carl Gustav Römer¹

¹ Centre for Age-Related Diseases (SESAM) Stavanger university Hospital, Norway
² Department of clinical science, University of Bergen, Norway

Introduction

Treatment-resistant depression (TRD), defined as a failure to achieve remission from depressive symptoms after two or more antidepressant medications trials, is a frequent and challenging task for old-age psychiatric health care^{1,2}.

Electroconvulsive therapy (ECT) is one of few options but has both high costs and side-effects. Intravenous (IV) ketamine has emerged as a potentially powerful new treatment option for patients suffering from TRD³. Recent literature suggests ketamine is also safe and effective for TRD in the elderly^{4,5}. However, few studies have been conducted in older patients.

Aim

More treatment options are needed for TRD in elderly patients. The aim of this study was to evaluate the tolerability and effect of IV ketamine treatment in elderly patients with TRD.

Methods

10 elderly (65-77 years) TRD patients were recruited to an open-label trial from an old-age psychiatric ward in Stavanger, Norway. Patients were included consecutively.

Patients received an add-on treatment with a series of 6 bi-weekly IV infusions of ketamine at doses of 0.5-1.0 mg/kg over 40 minutes.

Depression severity was assessed at baseline, after 2 treatments and after 6 treatments with the Montgomery and Åsberg Depression Rating Scale (MADRS).

Clinically significant improvements ($\geq 25\%$ symptomatic improvement from baseline), response ($\geq 50\%$ symptomatic improvement from baseline), and remission rates (MADRS <10) were calculated.

Patients without ability to give informed consent, primary psychotic disorders, acute suicidality, active psychosis or current substance abuse were excluded.

Physical conditions affecting safety of IV ketamine were assessed by an anesthesiologist prior to inclusion.

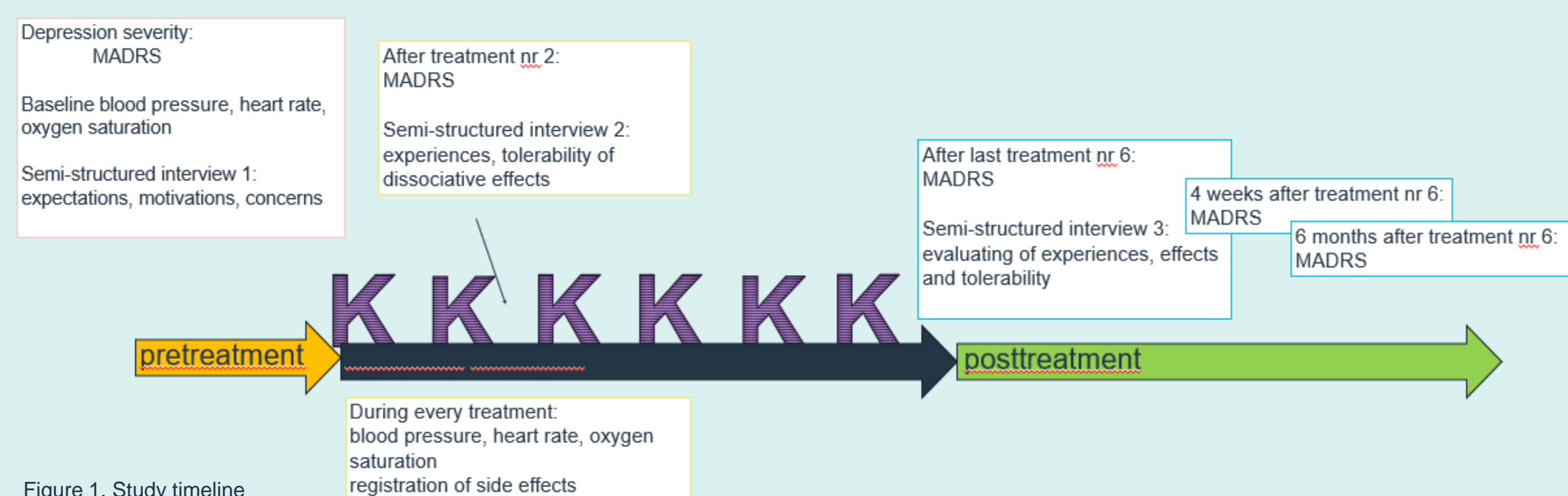


Figure 1. Study timeline

Results

	Age	Sex	Diagnosis	Age onset first depressive episode	Duration of current episode	MADRS baseline
Patient 1	76	f	recurrent depression	44	4y	33
Patient 2	74	f	recurrent depression	71	6m	33
Patient 3	72	f	bipolar depression	ca 30	2y	23
Patient 4	72	f	recurrent depression	34	1y	35
Patient 5	70	m	chronic depression	10	60y	32
Patient 6	77	f	recurrent depression	57	5m	24
Patient 7	65	f	bipolar depression	ca 30	10y	37
Patient 8	73	m	chronic depression	64	9y	22
Patient 9	65	m	chronic depression	35	30y	28
Patient 10	71	m	recurrent depression	ca 30	2m	30

Table 1. Baseline characteristics

Mean MADRS score at baseline was 29.7 (SD=5.25).

After 6 treatments, mean decrease in MADRS score was -14.2 (SD=9.62)

2/10 of patients showed clinically significant improvement, 3/10 response, 2/10 remission, 3/10 did not improve.

Improving patients presented a rapid drop in MADRS scores.

However, 4 weeks after the last treatment, benefits were only sustained in 2 of the 7 patients who showed improvement.

Treatment was generally well tolerated with all patients completing the treatment series. Expected side-effects like increased blood pressure/heart rate and dissociative symptoms occurred regularly.

Other adverse events included 1 switch to hypomania, 1 development of psychotic persecutory ideas during infusion, 2 re-experiencing of stressful childhood memories and 1 stuck-song -syndrome.

Figure 2. Mean MADRS score at baseline and after 6 treatments

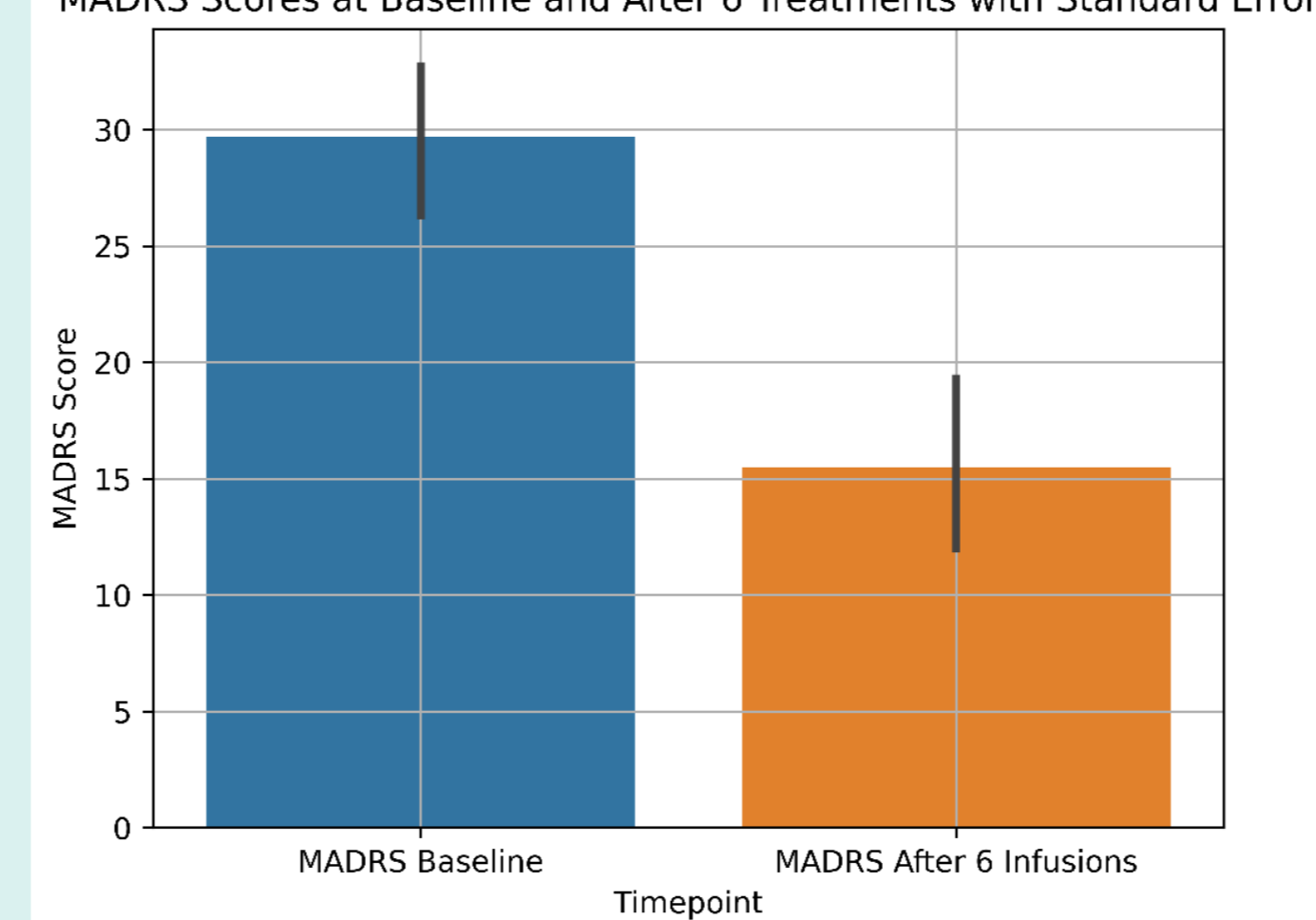


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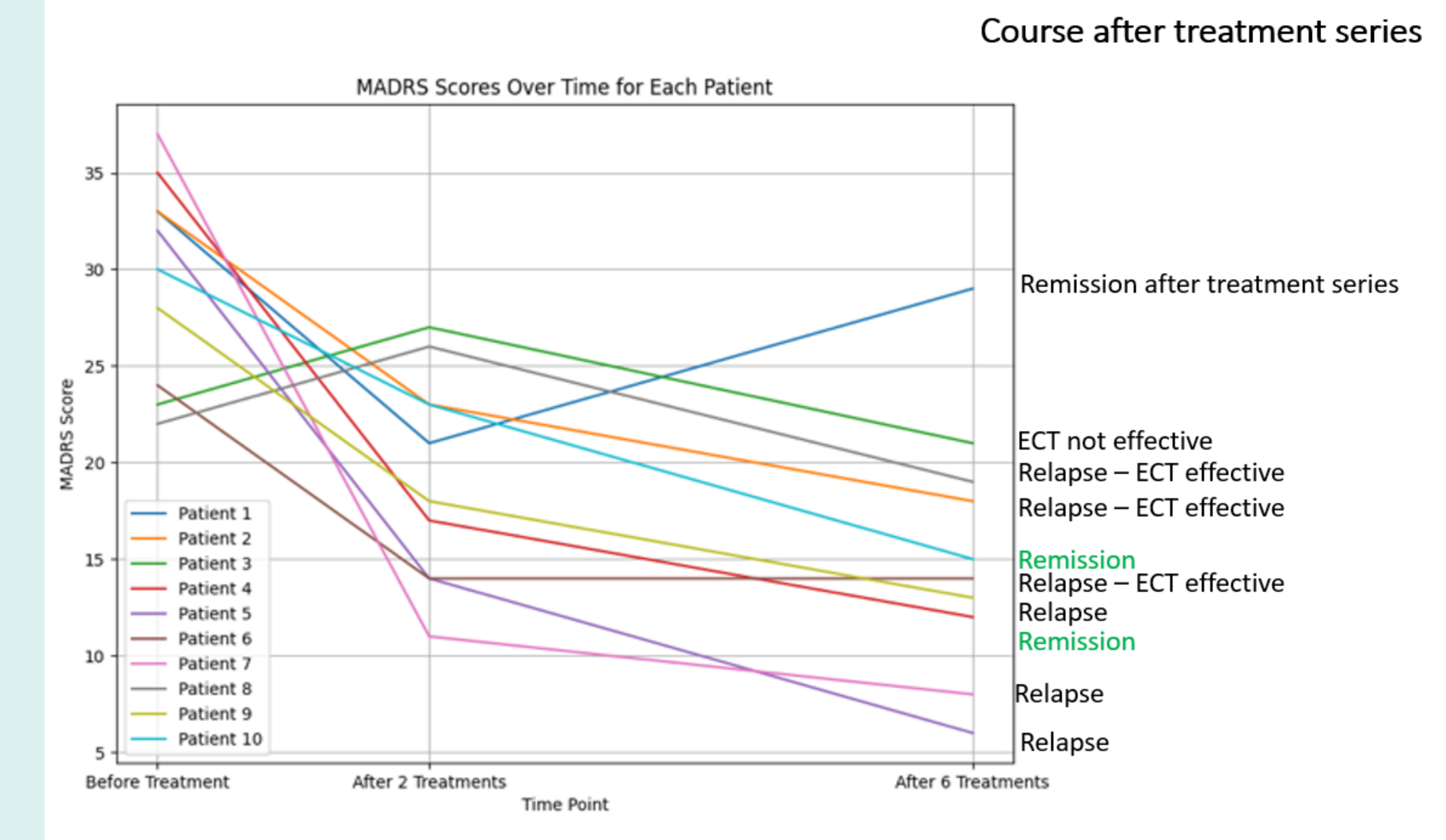


Figure 3. MADRS scores over time and course after treatment series

Conclusions

- IV Ketamine treatment led to a rapid reduction of depressive symptoms in the majority of patients.
- For some patients, the short-term clinical benefits observed were substantial.
- However, most of the patients in this study were unable to maintain an antidepressant response after a series of 6 IV ketamine treatments. Strategies for maintaining the effects are needed.
- Generally well tolerated, but adverse events requiring psychiatric evaluation and intervention were registered underscoring the need for qualified care during treatment.
- This was a small open-label study with important limitations. Larger randomized controlled trials are needed.

References

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Contact
 Henrik Bjørgaas Helle
 henrik.bjorgaas.helle@sus.no