Disclosures

Writting group member	Employment	Research grant[1]	Other research grant or medical continuous education[2]	Speaker's honoraria	Ownership interest	Consultant/ Advisory board	Other[3]
Alessandra Lamas Granero	Geriatric Clinic – São Paulo Commerce Workers Union	-	-	-	-	-	-
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** Modest*
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**** Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author.*
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Use of lithium during pregnancy: a case report using clinical decision analysis

Utilização de lítio durante a gravidez: um relato de caso usando análise de decisão clínica

Dear Editor,

There is great potential for the application of decision-making analysis in Psychiatry; especially in situations where the risk of continuing treatment is considerable. While the implementation of decision analysis can be time consuming, once in place, it can be a useful tool in difficult clinical situations.[1,2]

Case: A 32-year-old Hispanic female with a 9-year-history of bipolar disorder type I, presenting 4 severe manic episodes, requiring prolonged hospitalizations. The patient was stabilized with 1500mg of lithium carbonate per day with a normal serum level. The patient wanted to become pregnant. She had questions whether to continue lithium and having the risk of having a child with Ebtein's or another anomaly, or to discontinue the treatment and face the risk of relapse. The patient and the psychiatrist decided to use a decision tree for the potential outcomes, which are measured from 0, being the least desirable condition, "patient relapses and has an abnormal child", to 10, being the best option "patient does not relapse, and has a normal child". The patient and the psychiatrist came to a mutual decision to assign utilities based on their therapeutic relationship and the patient knowing that 10 is having a normal child and 0 having a child with a heart abnormality. Numbers in between were based on outcomes subjectively assigned by the patient with the help of her psychiatrist. Figure 1 illustrates the construction of the decision tree. The probabilities are assigned to each event taken from reports from literature. The sum of the probabilities of the events represented in each chance node must equal 1. Based on what the literature has described, approximately 21% of women who are pregnant decide to continue lithium treatment.[3] The risk of Ebstein's anomaly has been described to be approximately 0.05%. Studies have reported that in patients taking lithium, the risk for developing abnormalities is approximately 11%; for presenting a cardiac abnormality it is close to 8%, and for Ebstein's anomaly it is approximately 2%.[4,5] Pregnant women with bipolar disorder have a 52% probability of experiencing recurrence of their illness during their pregnancy if lithium is discontinued. Additionally, a patient receiving lithium treatment will have a 37% likelihood of relapsing.[6] Patients who stopped lithium may have a 55% risk of relapse within 3 months of discontinuation of treatment.[5] Based on these probabilities, the calculations were made from far right to left and where placed in each chance node. The patient decided that

she would continue lithium treatment during her pregnancy and she expected to have a normal child. She gave a utility of 10. For the decision tree, the calculations were as follows:

1A: (Assigned Utility x Probability of having Normal Child) + (Assigned Utility x Probability of Having a Child with an anomaly) = (10x0.89) + (4 x 0.11) = 9.34

Same procedure is used for the other assigned utilities.

Our decision tree shows a final expected value of 7.10 This value compared with 6.99 favors the use of lithium during pregnancy. Using different probabilities and assigned utilities, our results show that lithium is a viable option to use in pregnant women who have a history of bipolar disorder. The outcomes tend to favor the use of lithium, even though there were high values assigned to undesirable outcomes. In our case, the baby was delivered without any complications and the mother continued lithium during pregnancy without any exacerbation of her bipolar disorder.

This methodology could be applied to different scenarios. We considered this specific case because of the frequency of this situation in clinical practice. The outcomes could vary according to the subjective input of the patient and her family. Also there are different probabilities that could be changed according to the clinician's judgment, his or her experience, and new reports in the literature. Nevertheless, it offers a valuable example of how to provide some objective information to patients in complex clinical situations.

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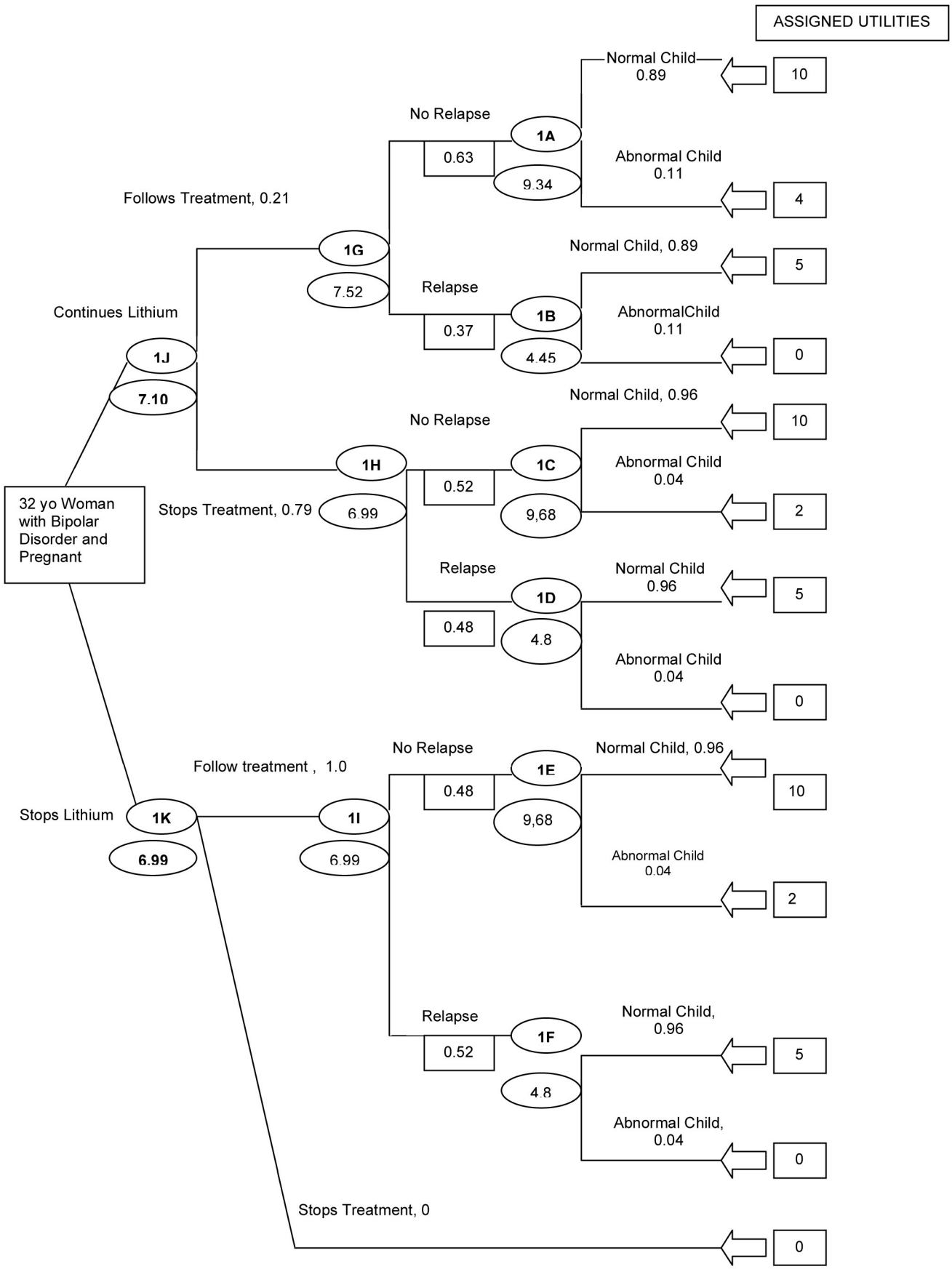

Figure 1 - Lithium tree decision analysis

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Ricardo Sánchez Pedraza	Universidad Nacional de Colombia	-	-	-	-	-	-
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