The effects of using the PReDicT Test to guide the antidepressant treatment of depressed patients: Interim results on patient compliance and acceptability

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Co-funded by the Horizon 2020 Framework Programme of the European Union

Introduction

- The cost of depression in Europe is estimated at >€80 billion

- Antidepressants are effective in reducing depressive symptoms, but it takes 4-6 weeks before it can be determined whether the treatment is working or not

- More than 50% of patients fail to respond to their first prescribed antidepressant

The solution

- Antidepressants induce changes in processing of emotional information shortly after treatment is initiated

- A machine learning derived algorithm was developed to combine changes in emotional processing with information derived from the Quick Inventory of Depression (QIDS-SR16) questionnaire to predict antidepressant treatment response; this resulting medical device was called the PReDicT Test

- Patients completed tests and questionnaires at home with their data securely transmitted to their physician for evaluation

The PReDicT RCT trial

- The trial evaluates whether the PReDicT Test reduces the time to response compared to "treatment-as-usual" (TaU)

- Patients were recruited from ~80 primary care centres across Europe

- All patients completed the PReDicT Test before and approximately one week after beginning treatment

- If the PReDicT Test indicated that a patient was not responding to treatment, a dose increase or a switch in medication was recommended
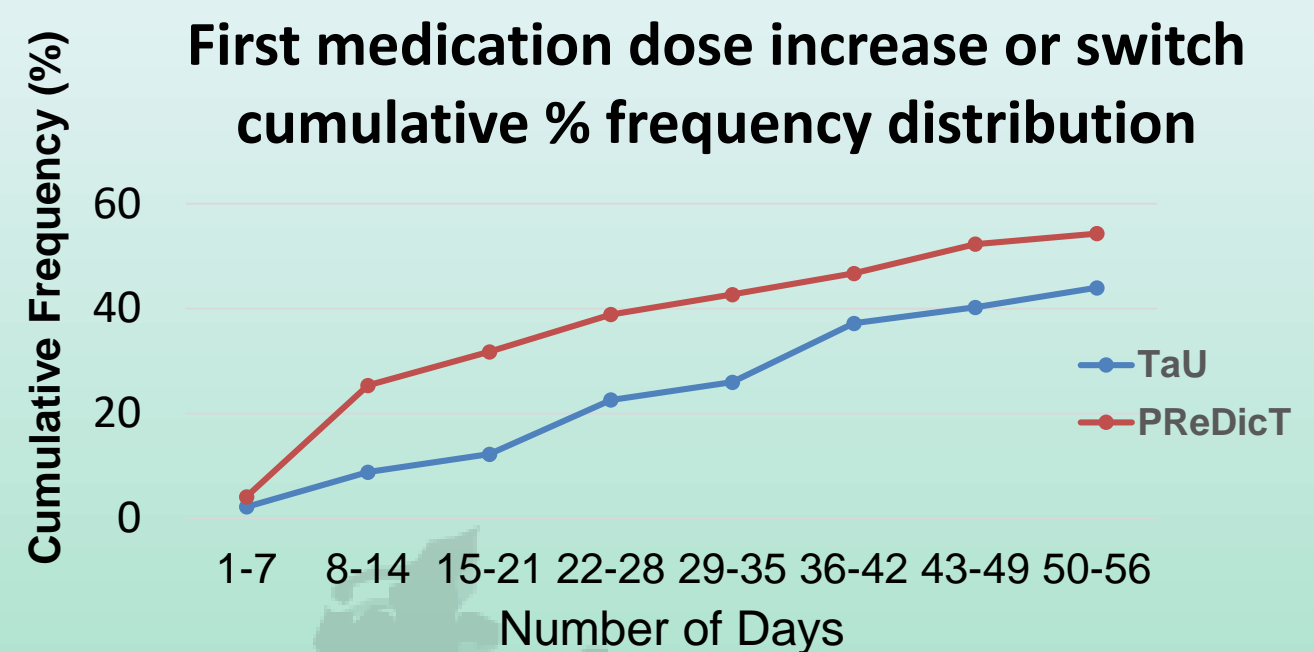
Results

- Interim results from approximately 500 patients

- A dose increase occurred in 16% of patients whose treatment was guided by the PReDicT Test compared to ~6% of patients receiving TaU (**Figure 1**)

- ~ 35 days after treatment began, a switch to an alternative medication was more common in patients guided by PReDicT (~10%) than those receiving TaU (~3%) (**Figure 1**)

Figure 1
First medication dose increase or switch cumulative % frequency distribution

- PReDicT intervention led to earlier changes in treatment

Figure 2
Compliance with test requirements

- At the end of the 8 week study period >90% of patients had completed their primary assessments

- Patients were still using the PReDicT Test 6 months after the study end

Conclusions

- People valued the technology forming part of their care

- It brought additional information and objectivity to the process and encouraged a connection with their physician

- Interim results suggest that clinicians are willing and do change practice using the PReDicT Test to guide their decision making

- Final results (due 1H'19) will show if PReDicT guided treatment results in better outcomes for patients
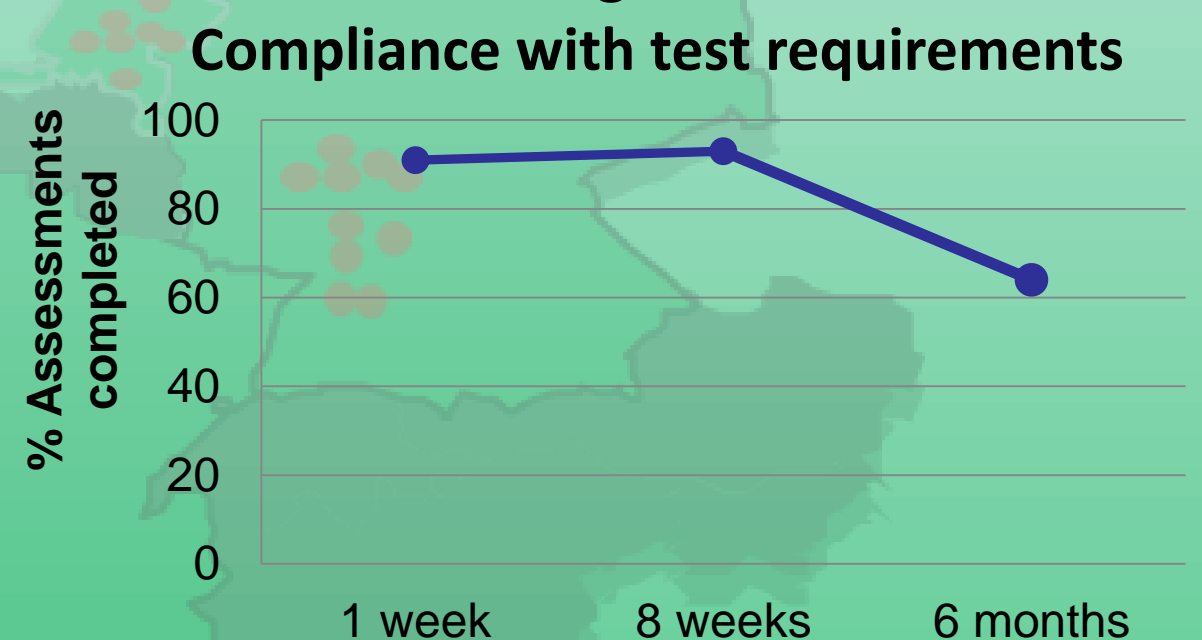
References
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