

The importance of hair testing for benzodiazepines in a suspected case of idiopathic recurrent stupor

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Background

Stupor is a diagnostic challenge in emergency department. Differential diagnosis covers epilepsy, recurrent hypersomnias, metabolic causes, intoxication, and idiopathic recurrent stupor. The latter formerly attributed to “endozepine-4” [1] has been recently questioned since all the recent suspected cases resulted in exogenous benzodiazepine intoxication [2,3].

Case

A 42-year-old man presented three episodes of stupor over a period of two months. Episodes lasted from few hours up to one day, followed by spontaneous recovery. During each of these episodes the patient was evaluated at the emergency room and underwent several investigations (as shown in Fig.1). In every episodes the patient kept denying assumption of drugs or medicines. The patient was finally admitted in our hospital in the suspicion of idiopathic recurrent stupor.

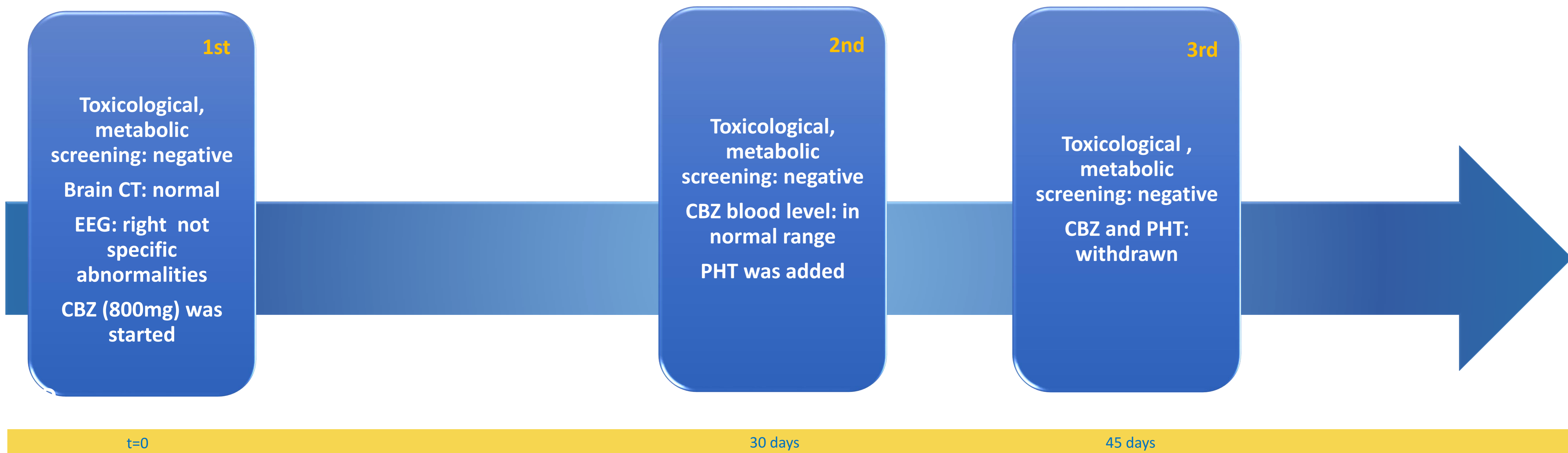


Fig.1

Results

All serological and neurophysiological investigations turned to be normal, but in contrast hair analysis disclosed the presence of the triazolam in the sixth and seventh segment at the concentration of 18.4 and 12.3 pg/mg, respectively (Figure 3). Considering the average hair speed growing as 0.8-1-3 cm per month, it could be concluded that triazolam was detected in a segment corresponding to the previous three and three and half months, when the last two of the three episodes of stupor occurred.

Conclusion

Given the scientific controversies on the real existence of IRS and, above all, considering the important medico-legal implications of fraudulent BZD intoxications (i.e. Munchausen syndrome or Munchausen by proxy), this case shows the importance of objective assessment of a hidden toxic behaviour and sheds light on the importance of testing nonconventional biological matrices as a tool to complete clinical diagnosis in cases of unexplained recurrent stupor/hypersomnolence.

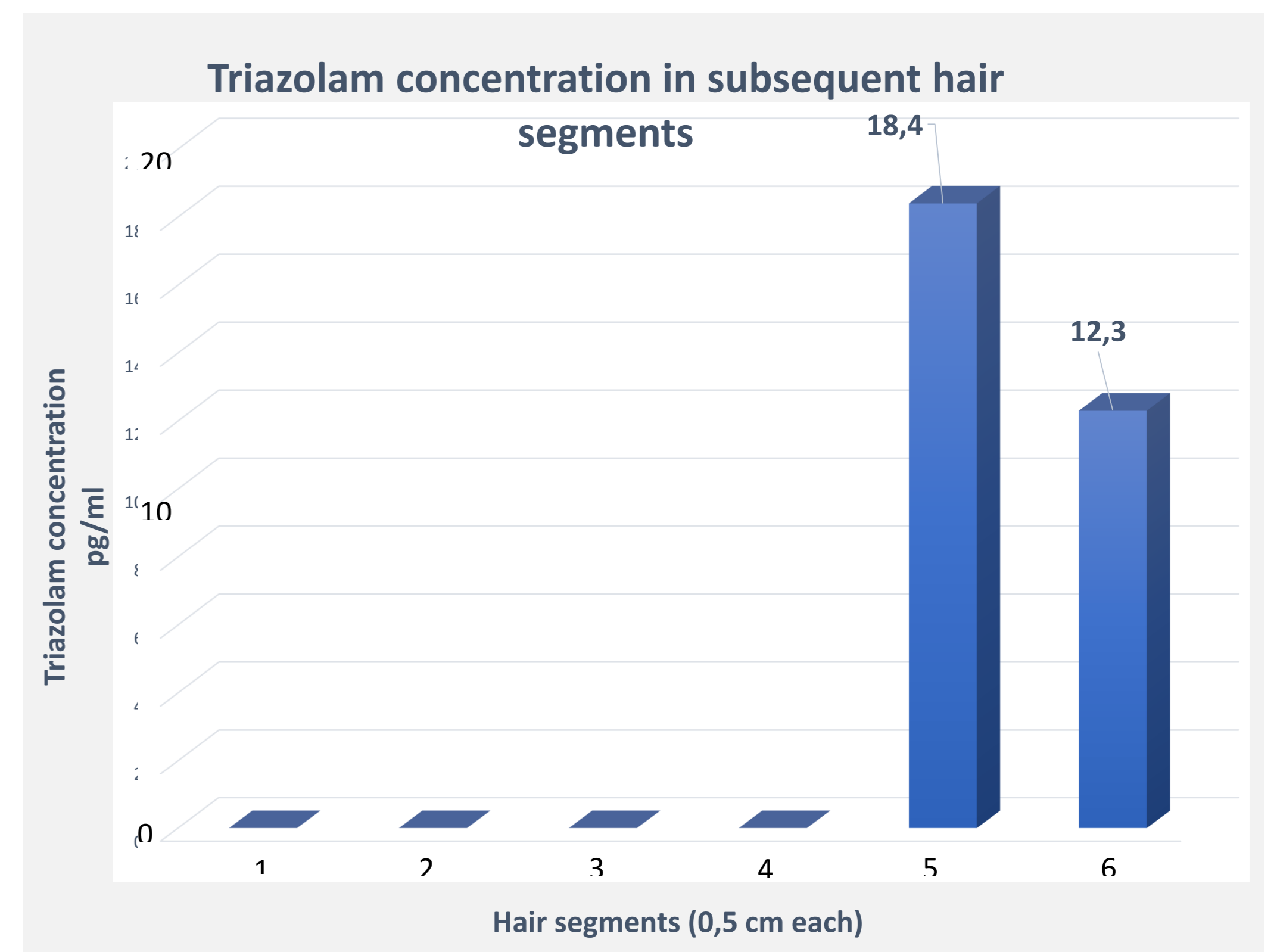


Fig.3 Concentration of triazolam from different hair 0.5 cm segments of a subject with a suspected case of idiopathic recurrent stupor. Each hair segment corresponds to the previous 15 days- time window dating back to 3 and half months period.

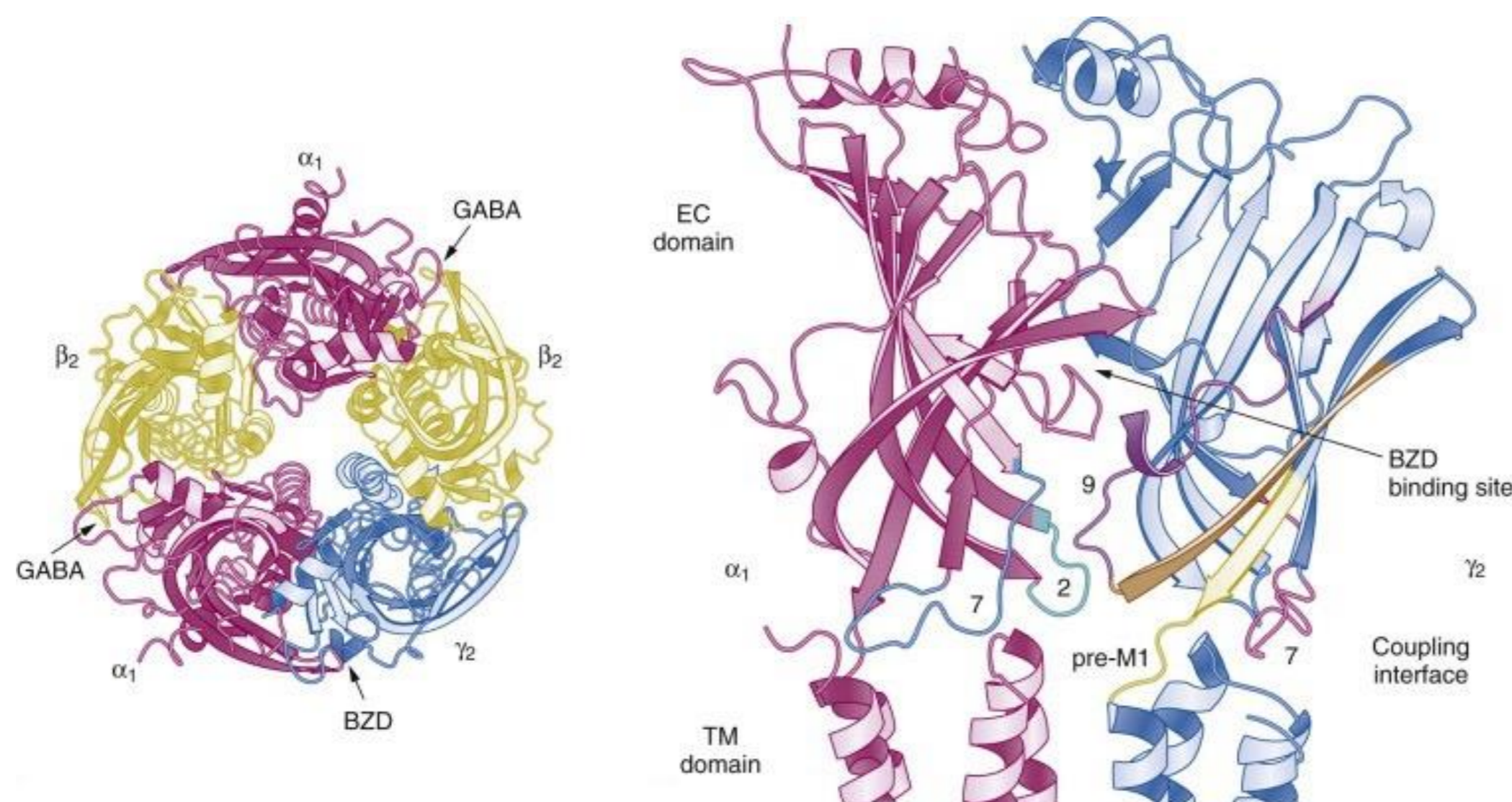


Fig.2 Structure of GABA_A receptor. The approximate locations of the GABA and benzodiazepine (BZ) binding sites are noted (between the α - and β -subunits and between the α - and γ -subunits respectively)

References:

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