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THERAPEUTIC EFFECT ANTIOXIDANT OF EGCG EXTRACT OF GREEN TEA POLYPHENOLS

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Abstract: Polyphenols are considered as cosmopolitan plant compounds. They are antioxidants and are the active principles of many medicinal plants. We find them, in general, in all vascular plants, where they can be located in various organs : roots, stems, wood, leaves, flowers and fruit. Reason of this, our study consists on extracting polyphenols from green tea *Camellia sinensis* leaves, measuring their toxicity (LD50) and their antioxidant effects and some therapeutic activities: action against stress, slimming activity and antibacterial activity. However, extraction of polyphenols of green tea by is very effective: - Analytical results of this extract allows us to identify the presence of therapeutic molecule so-called Epigallocatechine gallate (EGCG) revealed by GC-MS (Up to 58,1 %); The analysis by CG-MS identified 4 polyphenolic components included in the obtained lyophilisate which EGCG is the most abundant. - The rancimat test showed a very powerful antioxidant activity of polyphenols of green tea. - For therapeutic settings, the results obtained show that the polyphenols of green tea have protective effects on the model of depression SICD induced in mice, a strong slimming activity and a very effective antibacterial activity against *Pseudomonas aeruginosa* and screw-negative against *Escherichia coli*. Therefore, the application of green tea polyphenols as a natural remedy is very efficient so it is a return to the traditional pharmacy.