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Introduction John Farquhar Fulton was an American neurophysiologist and historian, who pioneered psychosurgery based on animal experiments. Together with psychologist Carlyle Jacobsen, Fulton presented the results of bilateral frontal lobe ablation in chimpanzees. This study prompted neurologist Egas Moniz and neurologist Walter Freeman to perform similar brain surgery on human subjects.
Objectives To present the scientific papers of John Farquhar Fulton on psychosurgery.
Aims To review available literature and to show evidence that John Farquhar Fulton made a significant contribution to the development of psychosurgery.
Methods A biography and research papers are presented and discussed.
Results Fulton and Jacobsen experimented with 'delayed response tasks' in chimpanzees. The aim was to test the animal's capability to memorize the correct location of the food. They found that after sequential ablations of the left and right frontal association cortices these memory tasks became significantly difficult for the monkeys to perform. The researchers saw parallel conclusions in clinical cases of human frontal lobe damage.
Conclusions An investigation into the role of the limbic system is one of the crowning achievements of John Farquhar Fulton, as this has influenced even today's thinking about the role of the limbic system. We should thank Fulton for his pioneering work as modern psychosurgery has gradually evolved from irreversible ablation to reversible stimulation techniques, including deep brain stimulation.
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EW0780

Analysis of ECT indications in the hospitalized psychiatric patients

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Introduction Electroconvulsive therapy (ECT) has been considered a treatment option for the treatment resistance, mania, depression, suicidality and schizophrenia. It has been still controversial due to the lack of controlled clinical trials and unknown biological basis but also because of the negative image from the history of the treatment.
Objective Specifics of the clinical judgement on when and for which patients' indications, ECT was a treatment choice.
Aim of the study was to evaluate indications for the ECT treatment in the hospitalized psychiatric patients at the psychiatric department.
Method For all the patient cases in the last 7 years at the department ($n = 326$), data was analyzed regarding age, gender, number of hospitalizations, age of first episode, diagnose, previous treatment, leading indication for ECT and outcome after the ECT, regarding following treatment.
Results The leading indication for ECT was psychosis and/or pharmacological treatment resistance, followed by suicidality. Patients with psychosis were younger than patients with other diagnoses when receiving ECT treatment. Regarding the results, indications for ECT had been partially differentiated from expected guidelines. Outcomes after the ECT were favorable in terms of better controlling the symptoms, lowering exacerbation frequency and intensity and partially, functioning.
Conclusion Studies on ECT indications and outcome could provide further insight on efficacy of the treatment, and possible improvements in clinical assessment on eligible patients who could benefit from the ECT treatment.
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EW0781

A systematic review and meta-analysis of the mortality rate of electroconvulsive therapy (ECT)

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Introduction Electroconvulsive therapy (ECT) is an efficacious treatment for many mental disorders, but is underutilized because of fears of adverse effects, including the risk of death.
Objectives and aims To provide a full picture of the magnitude of ECT-related mortality worldwide.
Methods We performed a systematic review and meta-analysis (PubMed and Embase) in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline. Only publications reporting on a specific number of ECT treatments as well as specific number of ECT-related deaths were included in our analysis. The ECT-related mortality rate was calculated by dividing the total number of ECT-related deaths by the total number of ECT treatments. The 95% confidence interval (95% CI) of this estimate was calculated using Bernoullis principle of distribution.
Results Fourteen studies with data from 32 countries reporting on a total of 757,662 ECT treatments met the predefined inclusion criteria. Fifteen cases of ECT-related death were reported – yielding an ECT-related mortality rate of 2.0 per 100,000 treatments (95% CI: 1.0–3.0). In the eight studies published after 2001 (covering 406,229 treatments), no ECT-related deaths were reported.
Conclusions The ECT-related mortality rate was estimated at 2 per 100,000 treatments. For comparison, a recent meta-analysis on the mortality of general anaesthesia in relation to surgical procedures reported a mortality rate of 3.4 per 100,000. Thus, our systematic review and meta-analysis documents that death caused by ECT is extremely rare. This information can be used to reassure patients in need of ECT.
Disclosure of interest The authors have not supplied their declaration of competing interest.

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The changes of social performance with transcranial magnetic stimulation (TMS) in depressed patients

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