Neuropsychopharmacology Section Update

One of the main projects that today concern Neuropsychopharmacology is to standardize the nomenclature of drugs based on their mechanism of action. This is the Neuroscience-based Nomenclature project (NbN) which sees the IUPHAR represented within the Taskforce by the Chairman of the IUPHAR Section of Neuropsychopharmacology, Filippo Drago. Other members of the Taskforce are Joseph Zohar (chairman), Stephen Stahl, Hans-Jurgen Moller, Pierre Blier, David Kupfer, Shigeto Yamawaki, Hiroyuki Uchida, Guy Goodwin, David Nutt. Five international organizations ECNP, ACNP, AsCNP, CINP & IUPHAR decided five years ago to establish a taskforce and gave it the mission to embed our current Neuroscience advances in the nomenclature.

The *scope* is to include all the medications with CNS indications and to harness this new nomenclature to help clinicians in prescriptions based on a rationale mechanism of action of them. Most psychotropic agents, in fact, have multiple actions on a variety of receptors and neuronal elements, such as reuptake transporters. For this reason, the primary classification now relies for most medications on a single mode of action and on one or two neurotransmitters for their most commonly used indication(s). For instance, aripiprazole and brexpiprazole have indications in both schizophrenia and inadequate response in major depressive disorder, but instead of calling them atypical antipsychotics, they now have the denomination of dopamine partial agonists, this property having a major role in their mechanisms of action in both disorders.

Furthermore, NbN does not presume an incorrect model of psychiatric pathology because it does not claim to explain the etiology of disorders, but only the properties of drugs used for their treatment. For instance, the serotonin reuptake inhibitor (SRI) fluoxetine is indicated in depression, obsessive compulsive disorder, premenstrual dysphoric disorder, and post-traumatic stress disorder, but it is not suggested that there is a similar abnormality of serotonin in all these disorders. In contrast, everyone in the field agrees that the primary target of fluoxetine is the serotonin reuptake transporter. Similarly, the currently available medications used to treat schizophrenia primarily target a decrease in dopamine D2 transmission, using either D2 receptor antagonism or partial agonism.

A second edition of NbN has been recently published including a total of 130 medications. A NbN has also been published for Children Neuropsychiatrists.

The nomenclature provides for each drug: Pharmacology and Mode of Action**,** Approved Indications (e.g., FDA, EMA, etc.), Efficacy and Side Effects**,** Practical Note, Neurobiology (preclinical and clinical sections).

A number of important scientific journals have announced to have adopted the NbN as proposed by the Taskforce, for all publications and correspondence. Among them, Biological Psychiatry, CNS Spectrum, European Psychiatry, International Journal of Neuropsychopharmacology, Journal of Clinical Psychopharmacology, Neuropsychopharmacology, Pharmacopsychiatry, World Journal of Biological Psychiatry.

In the third edition NbN-2R new layer: Pregnancy and Lactation was added. Also, the subject of drug/drug interaction was significantly implemented and 4 new medications were added. NbN-2R includes now 134 medications.

During the last ECNP 2018 Congress, the NbN Taskforce has met to discuss about a further simplification of the nomenclature. In this phase, the Taskforce has considered a main issue the need of condense some of the expressions indicating the mechanism of action of psychotropic drugs. For instance, the expression “receptor agonist” or “receptor antagonist” will be condensed in “agonist” and “antagonist”. This will probably make the understanding of the drugs’ mechanism of action more immediate also from the patient view point.



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