

Joel Greenberg reports from Chicago at the annual meeting of the American Psychiatric Association

## Stifling hyperactive children

Stimulant drugs used to quell hyperactivity in children may stifle more than behavior. Researchers Jeffrey Mattes and Rachel Gittleman of New Hyde Park, N.Y., report that stimulants may reduce the height and weight growth of youngsters over a period of years.

For up to five years the researchers measured the height and weight of 93 hyperactive boys who received the stimulant methylphenidate for varying periods of time. About three-fourths of the children were on the medication for more than three years, and the mean dosage for the total group was more than 40 milligrams a day. Growth was compared with that of statistically normal children.

The results show "steady" and "significant" deficiencies in height and weight growth among the methylphenidate-treated youngsters. At the end of each of the five years, those children exhibited height reductions of 1, 9, 13, 17 and 36 percent, progressively — up to three inches. Reductions of 9, 15, 18, 18 and 15 percent were recorded in weight over the five years.

According to Mattes and Gittleman, the study is the first to confirm indications from previous research that antihyperactivity stimulant drugs may stifle the rate of height and weight growth in youngsters taking substantial doses over a number of years.

## Advances in measuring drug effects

One reason antipsychotic drugs are not always effective may involve improper dosage: Some patients may be getting more than they need, others less. "The problem we've had in the past in monitoring these drugs is that they are processed in the body with remarkable variability," says Solomon H. Snyder, psychiatrist and pharmacologist at Johns Hopkins University. "One patient may require 100 milligrams for dose effectiveness, while another may require 2,000 milligrams of the same drug to achieve the same response."

To help avoid the "guessing game" of how much to prescribe for a single patient, Snyder and colleague Ian Creese have developed a test they report is a "simple, fast method of measuring levels of the drug in the patient's blood." And, they add, the method enables a physician or trained technician to perform up to 100 blood tests in a single morning.

The technique involves the use of radioactively tagged <sup>3</sup>H-spiroperidol, a substance known to bind to cells in the brain that ordinarily receive the transmitter dopamine. Because schizophrenia is thought to involve an overactive dopamine system in the brain, antipsychotic drugs are used to block these dopamine receptor cells. Using a radioactive counting machine, the researchers say they can now gauge the optimal level of a drug in the blood by recording how much of it is needed to displace <sup>3</sup>H-spiroperidol at dopamine receptor sites.

This procedure, says Snyder, will measure any drug metabolite that blocks dopamine receptors. "It is possible that there is a standard blood level of antischizophrenic drug for a therapeutic dose," he says, "and that is what we hope to learn."

## Lithium: The good, bad and delirious

Psychiatrists are generally pleased with the favorable effects of lithium treatment in many cases of manic-depression, but they know comparatively little about how or why the drug seems to work. Several researchers are attempting to shed light on the mechanisms of lithium.

Psychiatrists Lewis L. Judd, David S. Janowsky and Leighton Y. Huey of La Jolla, Calif., report that tests with "normal" male volunteers indicate that lithium does not seem to slow sensory motor functions, as some have suspected. Rather, the drug ap-

pears to slow the rate of cognitive processing — an action that may account for lithium's anti-manic effect.

In a separate study, a group of researchers from Cincinnati and Chicago says lithium appears to work for more than just manic-depression. Persons with somewhat milder than usual symptoms of schizophrenia, and whose prognosis is good, respond favorably to lithium, they report. This does not mean that lithium helps most chronic schizophrenic disorders of thought, mood and behavior, the scientists suggest. But it does indicate that certain types of schizophrenia-like illnesses may be related to depression or mania and are closer to the affective disorders than to classic schizophrenia.

Lithium's effects, however, are not favorable in all cases. Several instances of "delayed delirium of lithium toxicity" are reported by J. Raymond DePaulo and Marshal F. Folstein of Johns Hopkins and Baltimore City hospitals. The psychiatrists cite cases in which lithium blood levels may reach a toxic level, causing delirium, convulsions, seizures or other such problems.

Perhaps more disturbing, though, is that even after dangerous blood levels are brought down to nontoxic concentrations, the delirium symptoms can continue for days or weeks. "The easiest possible explanation... would be that it takes about seven to 10 days to develop tissue levels or dissipate tissue stores of lithium," the researchers say. But this does not fully explain the mechanisms by which the tissues produce such disturbing effects, they continue, and "does not explain the reappearance of delirium as seen in one patient or the seizure occurring after the resolution of the delirium in another." They say that lithium's interaction with certain tissue cells may cause some hormonal or other chemical imbalance.

## Antidepressants for pain

Emotional factors in chronic pain are receiving increased attention among psychiatrists and other researchers (SN: 5/19/79, p. 332). And there is a growing indication that certain chronic, "pain-prone" individuals may benefit from treatment with antidepressant drugs.

In one of the most recent studies of this kind of treatment, psychiatrists at Henry Ford Hospital in Detroit tested 129 patients who had been in pain for an average of 7.5 years. Part of the group was treated with substantial doses of an antidepressant, while the other part was treated "conservatively" with muscle relaxants and without any increase in antidepressant medication.

Over a 16-month treatment period, 60 percent of those receiving antidepressants improved significantly, and 52 percent said they were completely pain-free. In contrast, just 24 percent of the conservatively treated group improved, and 68 percent of this group dropped out of the program (compared with fewer than 35 percent in the other group).

## Drugging hospital patients

Compared with their counterparts in many other countries, U.S. psychiatric patients are believed to receive higher doses of psychotropic, or mood-changing, drugs. But what about non-psychiatric patients? A survey of a leading Boston hospital by Harvard University psychiatrist Carl Salzman reveals that 40 percent of the medical and surgical patients were prescribed at least one psychotropic drug for depression, anxiety, sleep agitation or psychotic symptoms. The most prescribed drug was flurazepam (a sleeping medication and tranquilizer). Salzman concludes that such drugs are "overprescribed and underdosed [for those who need them]", and that this kind of use in hospitals presents a danger of side effects when combined with other medications.