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Treatment of Children with the Detoxification Method Developed by Hubbard

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Introduction

The prevalence and variety of manufactured chemicals has exploded in the 20th Century. There have been over four million chemical compounds reported in the literature since 1965 with nearly six-thousand added to the list each week with the health effects from many only marginally understood.[1] Estimates have five billion pounds of chemicals released into the environment in 1991. That's twenty-five pounds per square mile over the entire surface of the earth. In 1900 the environment accounted for 12% of deaths. In 1976 it was 59%.[2] Today it is higher. Chemicals represent nearly 10% of U.S. annual exports, totaling near $40 billion dollars.[3]

Cancer has been our primary measure of harm. Human exposure limits, when set, are based largely on carcinogenic effect. While better than none, cancer used as the final yardstick of harm, relegates environmental medicine to counting dead bodies. The human nervous and immune systems are far earlier sentinels of harm. Yet less than ten percent of the 70,000 chemicals in daily commercial and domestic use have been tested for neurotoxic or immunotoxic effects.[4] In addition, the very ability of Man to reproduce is now suspect because of xenoestrogenic chemicals in our environment.[5]

The EPA reports that literally every American has accumulated measurable levels of some thirty different toxic chemicals in their tissues.[6] More recent reports set the tally at one hundred and seventy-seven.[7] Every woman's breast milk boasts pesticides, lindane, chlordane, dieldrin and sixty-five isomers of PCB's and dioxins. The average man's semen has thirty-five different forms of PCB's.[8] The human body has become the final repository, the final toxic waste dump. Increasing toxic body burdens have been associated in the literature with increased risks, health effects, and symptomatology. It is not surprising this chemical plethora is having an adverse effect on the population at large.

Domestic Chemical Exposures

The sanctity and safety of the American home is questionable. The number of chemicals found in the average U.S. home reaches into the thousands. Homemakers show excess cancer deaths as compared to women who work outside the home.[9] Every year there are between five and ten million household poisonings.[10] The New York Poison Control

Center reports 85% of product warning labels are inadequate.[11] Toxic solvents in paints and cleaning products, perchloroethylene in dry cleaning chemicals, 4 phenylcyclohexane in carpets, isocyanates in glues, lead in old plumbing and paints, pesticides, termicides, dioxins in bleached paper products, chlorine compounds in shower water, asbestos and formaldehyde insulators, and radon gas make up just the initial "dirty dozen." While there is a dearth of pharmacokinetics data, many of these chemical compounds have oil-soluble metabolites that are known or suspected to store in the human body. Increased endogenous dose is linked to increase health risks.[12]

Domestic exposure to pesticides has been associated with a five-fold increase in childhood cancer.[13] Parental exposure at work to solvents is strongly correlated with childhood leukemia at home. The exposure coming from the parent's clothes and breath. Domestic health consequences are exacerbated if the home is designed as a tight building or lacks adequate ventilation.

School Exposures

Schools often present a hotbed of chemical exposure normally outside parental control. Commercial-grade cleaning solvents, glues, waxes, polishes, paints, pesticides are often used. Radon and electromagnetic radiation from electric power substations are seldom monitored. Many older buildings are permeated with lead from old paint chipping and dusting. Nearly 10% of schools have been found to contain dangerous levels of asbestos. An estimated three million school children and some six-hundred thousand teachers and school employees are exposed to dangerous levels of this carcinogenic substance.[14]

Children

One consequence of widespread chemical contamination is the occurrence of chronic health effects in children. Nearly two million American children, ages one to five, suffer from lead poisoning. Fifteen percent of children under the age of six (three million pre-schoolers) have blood lead levels that exceed standards and can cause permanent neurological effects.[15] Lead demonstrates that behavioral problems may well be the earliest sign of low level chemical exposure. The unanticipated damage from low levels of lead are a disturbing harbinger of the what the future may hold.

The effects on young children are often more severe than they are on older people in the same family. The effective concentration of the chemical may be higher in children. Also, children may be developmentally more susceptible to adverse effects. The blood brain barrier is less well developed, allowing more chemicals to pass through and cause damage.[16 17]

Contributing factors include: smaller body mass, less developed immune system, higher rate of metabolism, increased susceptibility to developmental effects caused by hormonal disruption, and dietary intake.

Treatment of Xenobiotic Exposures

Amelioration of health effects can involve several approaches. Foremost is the removal of exposure source. Environmental sensitivities may respond to chemical desensitization. Proper nutrition may counter deficits—common to chemical exposures. Finally, the reduction of toxic body burdens may reduce symtomatology and accelerate recovery. EDTA chelation has demonstrated symptom remediation by eliminating toxic body burdens of lead.[18] However, while EDTA chelation has proved successful with certain water soluble metals, it cannot eliminate the more pervasive lipophilic toxic compounds.

There are many instances where entire families have become ill following inadvertent exposure to toxic chemicals. In this presentation, we will focus on the treatment of eighteen children from ten such families with the detoxification method developed by Hubbard.

Toxic Body Burden Reduction

The detoxification method developed by Hubbard is designed to gradiently mobilize and excrete fat-stored xenobiotics. This approach has proven safe and effective in patients with a variety of chemical exposures, including Michigan farmers exposed to pesticides and PBBs, electrical workers exposed to PCBs, painters exposed to heavy metals and chlorinated solvents, firemen exposed to dibenzodioxins and dibenzofurans, and drug users. Studies have shown a consistent pattern of reduced body burdens associated with symptom reduction.[19 20 21 22 23 24 25 26 27 28 29 30]

The need for toxic body burden reduction was again emphasized by a recent study of Michigan women. Breast tissue from women with breast cancer was compared to tissue from women with other breast diseases. Women with cancer had fifty to sixty fold higher levels of organochlorine compounds including pesticides and PCBs in their breast tissue than the women without cancer.[31]

Study Group

The study group consists of 18 children from 10 families. In each of these cases, the entire family became ill following a known change in their environment. The distribution of families, children, and contaminant are shown in Table I.

TABLE I

No. of Families	Chemical	No. of Children
Four	Chlordane	six
Two	4 phenylcyclohexane	six
One	Aldrin and Dieldrin	two
One	Unknown water contaminant	two
One	Heavy metal	one
One	Paints and solvents	one

Children in these families ranged from neonatal to fifteen years old at the time of exposure. Treatment ages ranged from four to twenty-one. Their chief complaints included headaches, allergies, respiratory problems, recurrent infections, fatigue, and multiple chemical sensitivities (Table II).

TABLE II

CHIEF COMPLAINTS

COMPLAINT	NO. OF CHILDREN
Environmental sensitivity	six
Headache	six
Fatigue	five
Allergies	two
Respiratory problems	three
Recurrent infections	two
No major complaint	one

Detoxification Treatment, Hubbard method

The Hubbard program is an intensive detoxification program. As with adults, children were medically screened prior to treatment, and given a detailed medical history and physical examination. Routine blood and urine screens were performed. Contra-indications to treatment are described in the literature elsewhere, but include heart disease, kidney disease, diabetes, liver disease, hypertension, and inability to participate in a mild physical therapy exercise program.

The program was delivered in a clinical setting. Fat biopsies were judged, in most cases, as too invasive given the age of most of the participants.

In summary, the Hubbard protocol consists of : 1) Medical exam and diagnostics 2) Incremental dosages of nicotinic acid (niacin) to promote turnover of fatty acids 3) The starting dose is normally 100 mg and increases over treatment period (on average two to four weeks) 4) Running (or if unable, alternate aerobic physical therapy exercise as prescribed by the physician) to promote deep circulation. Normally 20 to 30 minutes 5) Alternating periods in a low temperature, ventilated sauna to promote sweat and sebaceous gland excretion 6) Proper cool downs as needed with replacement of water, salts, and minerals 7) Polyunsaturated vegetable oil administered orally to reduce enterhepatic recirculation. Normally a few tablespoons a day taken with food 8) Replacement and balance of vitamins and minerals 9) Adequate fresh vegetables and fiber in diet 10) Adequate sleep and schedule with ideally five hours per day on treatment.

The standard Hubbard protocol was given to these children. However, there were physician modifications to allow for their decreased body size. In addition, extra attention was paid to clearly informing the patients as to the purpose of the program and its end point, so they knew what to expect and could communicate well with the supervisory staff.

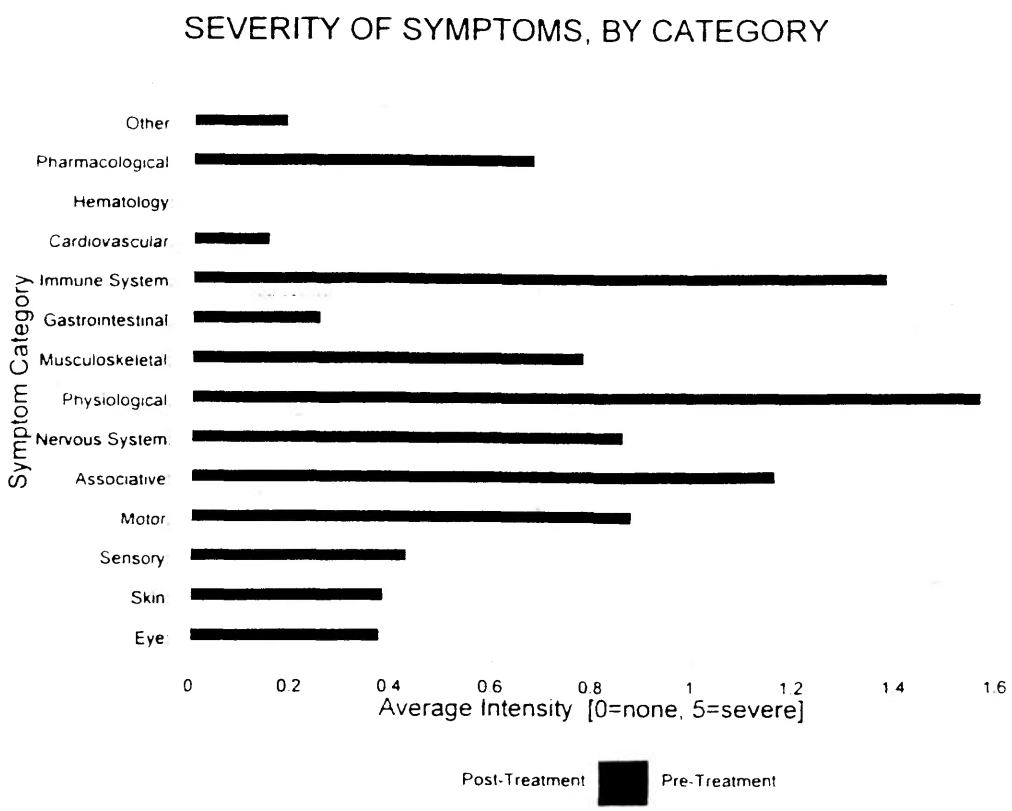
Specific modifications included: 1) Lower niacin starting (25 mg), incremental, and end point doses 2) Reduced oil doses to avoid gastric distress 3) Powdered vitamins (not pills) at less than adult doses made palatable in fruit juice mixes 4) Treatment intervals reduced to maximum of fifteen minutes—smaller body sizes having more rapid core temperature increases 5) Extra supervision to monitor: dehydration, overheating, and inadequate salt or mineral replacement 6) Total treatment time per day reduced to three hours 7) Additional dietary supervision.

Treatment Results

The treatment of the cohort resulted in significant improvement in their symptom profiles. Patients rated the severity of eighty-seven symptoms before and after treatment. These symptoms were grouped in several categories with the average severity calculated before and after treatment.

Figure I demonstrates marked improvement in patient symptom severity following the detoxification treatment. On follow-up 89% reported long-term improvements in symptom profiles.

FIGURE I



The following summarizes two such cases.

CASE HISTORY 1

Case One is a six year old girl exposed in utero to fumes from new carpeting. The entire family of two adults and five children became ill after the installation of new carpeting. After three weeks the family was forced to abandon their home which was permeated by fumes. Carpet samples were sent to Anderson Laboratories for study, where mice with special diagnostic monitors attached are exposed to carpet samples within a controlled environment and observed. When exposed to the specific carpet, they all died within several hours. This lab result was unprecedented. 4 phenylcyclohexane was the suspect agent as the latex backing of the carpet had admittedly not been properly cured. This celebrated case eventually resulted in the mother testifying before Congress, which then enacted new labeling criteria for carpeting.

The patient had extreme multiple chemical sensitivities. She was unable to leave the home and was quite ill. She was unable to perform rudimentary tasks expected of a six year old. Her initial niacin dose was 25 mg with increments of 25 to 50 mg on subsequent treatment days to an end point dose of 212 mg. Her average oil intake was one to two teaspoons. She averaged three hours per day on treatment. She completed treatment in twenty-nine days.

Detoxification effected long-term improvement in her environmental sensitivities. Her task performance improved, and she was able to go outside her home and take art classes for the first time.

CASE HISTORY 2

Case Two is a fourteen year old girl. Her family was stricken ill by repeated misapplications of dieldrin to their home two years previously. Her chief complaints were headaches, acne, and nausea. Due to her body size she was able to do a full protocol with addition supervision paid to diet and communication. She underwent a fat biopsy before and after detoxification. The adipose tissue was extracted and a GC scan for organochlorines was performed. Dieldrin metabolites were below detection limits; however, the DDT metabolite, DDE, was found at 2.08 ppm before detoxification, and 0.24 ppm after detoxification. Following treatment she reported significant improvements in headaches and acne.

Conclusion

Familial chemical contamination will continue to occur in our modern society. Where children have become ill following chemical contamination, detoxification treatment provides a viable approach. The treatment is safe and provides long-term improvements in the health profiles of exposed children increasing their ability to become productive members of society.

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