## AUTISM Nigel Wynn, NIMH Conference, April 2001

## Characteristics

Autism was first described only relatively recently (in 1948?).

Nowadays, it is usual to speak of ASD (Autistic Spectrum Disorders), which cover a range of similar problems from dyslexia and attention deficit disorders to classic autism and Asperger's Syndrome.

The incidence of autism (including Asperger's) is 91 in 10 000, with 4 times as many boys as girls affected. Diagnosis is generally made between 12 and 18 months of age.

Autistic children typically show signs of communication problems: they may seem in a "world of their own", isolated and aloof, focusing their attention on minute detail and unable to play imaginatively. Speech development is usually delayed and these children tend to miss the nuances of language, which they interpret literally. Eye contact is typically avoided and they do not respond correctly, if at all, to the signs of body language or voice tone. Other signs include repetitive behaviour such as rocking, dread of change in routines or surroundings, no sense of danger, self-injurious behaviour and possibly aggression. Hyperactivity is common and sleep may be problematic. In spite of their inability to cope with external stimuli and communication, autistic children are often extremely intelligent and may exhibit exceptional skills of memory or calculation.

## Causes

There is no consensus on the causes of autism. It does indicate, however, serious disruption of brain functioning and/or development. Damage to the brain is possible before during and after birth and the side effects of oxygen starvation and diseases such as maternal rubella, measles and pertussis have been implicated. Genetic factors may be important in some cases.

## Current theories - immune damage

The most topical theory is that linking autism to the effects of childhood vaccinations, notably the mumps, measles and rubella (MMR) jab. As you will be aware, this is a "hot" subject. Andrew Wakefield's work at the Royal Free, which revealed severe disruption of intestinal structure, has been vilified in the scientific press. A great many parents, however, are convinced of the link, having noticed changes in their children after vaccination. Autoimmunity has also been implicated with the detection of nerve protein antibodies in some autistic children. More generalised immune damage has been suspected as a result of over-zealous antibiotic therapy or viral attack.

# opioid excess theory

The effects of opioids and the symptoms of autism bear many similarities. It is thought that autism might be caused by the over-stimulation of opioid receptors by particular "opioid" peptides, which have been detected in abnormal amounts in the majority of autistic children tested. These peptides include caseomorphine (from the milk protein casein) and gluteomorphins (from gluten). Their effects are likely due to a combination of inefficient digestion, which enables them to persist, and "leaky" membranes, which allows them to pass unhindered through the gut wall and the blood-brain barrier. As well as direct effects on CNS functioning (including perception, cognition, mood and behaviour), excess opioid stimulation can affect immune and hormonal systems, both of vital importance to developing nervous tissue.

# biochemical factors

There is evidence in autistic children of deficiencies in particular enzyme systems, notably sulfur transferase. This is a fundamental enzyme system and deficiency has wide-reaching effects, for example on immunological response and several hormones. Deficiency appears to be due to lack of free sulfate rather

than missing enzyme. The equally fundamental methyl transferase system has also been suspected.

## poisoning

Some external poisons have been implicated, including exposure to aspartamate and organophosphorus pesticides.

#### Treatment

There are as many treatments available as theories of cause - each no doubt has its merits. Whichever is chosen, however, it is important that treatment commences as early as possible. Young brains develop very quickly and time lost at a crucial age can seriously compromise the chances of recovery.

#### orthodox

Behavioural therapy forms the basis of all orthodox treatment and is an invaluable aid to development.

Drug treatment is probably slightly less valuable, although it may help in alleviating some of the more antisocial symptoms. Most use is made of "synaptic" drugs - those affecting the various mechanisms of neurotransmission. Drags that have been used include the full range of anti-psychotics, anti-depressants and anxiolytics: e.g. Largactil (dopamine), SSRIs (serotonin), TCAs and MAQIs (serotonin and noradrenaline), beta-blockers (noradrenaline), benzodiazepines, amphetamines (GABA), Naltrexone (opioid receptors), etc.

#### "new" orthodox

Advocates of the opioid theory recommend gluten and milk free diets to avoid production of the relevant opioids. Some also use proteases, such as dipeptidyl peptidase IV (DDP IV), or injections of the digestive enzyme secret to further minimise production of rogue peptides.

Other treatments include "biochemical" correction of possible imbalance: e.g. sulfur supplementation through S-containing amino acids or sulfur baths, and avoidance of phenol-containing foods (removal of phenols requires sulfur transferase).

Courses of vitamin C and choline have been recommended for detoxification, and homeopathic desensitisation is a popular option, although results are variable. Fungicide treatment *of Candida* is common.

Many "physical" therapies are employed to alleviate symptoms, notably reflexology and aromatherapy.

## herbal

In the cases I have seen, there is an unquestionable link between the gut and behaviour; parents can often predict what the child's behaviour will be on any given day simply from the state of their digestion. This is consistent with the opioid theory of autism (to which I subscribe) and the gut is central to my treatment strategy.

First of all then, a gluten and milk free diet - essential to at least buy time. This is not an easy diet to prepare and great care needs to be applied to ensure that all essential nutrients are obtained. The ARU's "Sunderland Protocol" details this and is available from them at low cost (see reference below).

Leaky gut and *Candida* are almost always implicated. My favourite mix for this is *Curcuma*, *Cinnamomum*, *Cetraria* and *Gentiana*, but any number of digestive remedies might be appropriate depending on the clinical profile. Certainly, it is important that digestion is as efficient as possible and some good old-fashioned bitters will not go amiss. Given the link with secretin, pancreatic remedies might be preferred (e.g. *Berberis vulgaris*).

Absorption is likely to be a problem and supplementation is worth considering. EFAs and fat soluble vitamins are probably the crucial factors, but several others have been variously recommended (B6, dimethylglycine DMG, tryptophan, vitamin C, Mg, Zn).

If some sort of poisoning is suspected, a thorough detoxification is called for. This should pose no problem to herbalists, apart from choosing between the 100s of remedies at our disposal.

Immunological support is important. Most theories of autism imply that this system is compromised in some way and most immune herbs can be usefully employed. A personal favourite is hemp agrimony *Eupatorium cannabium*.

Nervines are essential- both to alleviate symptoms and, more importantly, to encourage correct nervous development. Trophorestorative herbs, *Avena, Scutellaria, Verbena*, etc. are therefore always indicated.

Without specific evidence of cause, it does not make sense to target particular factors and I prefer a broad spectrum approach to cover all known possibilities. As ever, clinical profile will govern prescription choice.

Monitoring the effects of herbal treatment is not easy. Signs and symptoms are not precise and may change for any number of reasons. Patients are usually taking other medication and supplements, and undergoing other therapy concurrently. In general, we would be looking for accelerated progress or more "good days" reported after starting herbal treatment, which can only come from the parents or close carers. A good deal of faith is required and treatment is invariably long-term but outcomes can be astonishing.

#### References

Most of the above information was taken from the Autism Research Unit website and links from it: http://osiris.sunderland.ac.uk/autism/