

Action on Puerperal Psychosis News

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New Web Pages

Our web pages at www.bham.ac.uk/psychiatry/panel.htm have been completely revamped with a smarter design and a lot of extra information. We have added a page of frequently asked questions about puerperal psychosis and addresses and links of sources of help and information, together with a list of academic papers on puerperal psychosis.

Interview Study

Dr. Monica Doshi has now almost completed the statistical analysis of information from these interviews. Some interesting associations seem to be coming out of this work. But the numbers of women participating in the study are relatively small. We will soon be sending out a questionnaire to those of you who did not take part in this study asking about points that have arisen from it such as the gender of your children. Being able to test the questions on a much larger sample of women, in this way, will make any conclusions much stronger. It would be of enormous help to us if as many of you as possible could complete and return this questionnaire when it comes thudding onto your doormat.

Lithium Trial needs Volunteers

The trial of lithium as a preventative measure against recurrences of puerperal psychosis is continuing and looking promising. However, we still need more volunteers to complete the trial. If you have suffered puerperal psychosis and become pregnant again please contact us for more information about the trial.

APP in New Zealand

Following a recent visit to New Zealand by Professor Brockington, we are pleased to announce that our collaborators in Christchurch, Drs. Debbie Wilson and Liz Macdonald have set up a register similar to APP. We hope to bring you news of their activities in future issues.

South African Study

A study recently published in the South African Medical Journal looked at 381 cases of puerperal psychosis. They found an incidence of puerperal psychosis of 2-3 cases per 1000 births which is similar to other studies. They found risk factors, which were; the birth of a first child, family history of psychiatric illness and a personal psychiatric history particularly a history of mania. Additional risk factors found were substance dependence, a medical illness, the season of the year, a male child and psychosocial stress.

Allwood CW, Berk M, Bodemer W, An investigation into puerperal psychoses in black women admitted to Baragwanath Hospital - South African Medical Journal 2000 May; 90(5): 518-20

Study on steroid receptor gene

A paper was published recently by our collaborators at City of Hope Hospital in California. This looked at the glucocorticoid receptor gene. (This related to the steroids which are released when your body gets worked up. This group of steroids change a lot during pregnancy). Using genetic samples from 40 APP members they looked to see whether any particular variation in this gene was associated with having puerperal psychosis. No such association was found. There is further work in progress looking at other steroid hormones.

Fen J, Zheng J, Bennett WP, Heston LL, Jones IR, Craddock N, Sommer SS - Five missense variants in the amino-terminal domain of the glucocorticoid receptor: no association with puerperal psychosis or schizophrenia. American Journal of Medical Genetics 2000 Jun 12;96(3):412-7

Your Questions answered

Some time ago we asked you to send in your questions about puerperal psychosis. One member wrote in with a number of questions about the risks that women with puerperal psychosis might pose to themselves and their babies.

We're pleased to be able to say that both infanticide (killing of one's baby) and filicide (killing of one's child) are extremely rare in women with puerperal psychosis. In those few cases where children have been killed, severe depression is the commonest cause. Women with puerperal psychosis do not pose a great risk of physical harm to their children. Moreover very few mothers with puerperal psychosis commit suicide.

We were also asked whether with puerperal psychosis who are not treated can ever recover. The answer is that they can. Cases reported in the medical literature before the advent of modern psychiatric medication show that mothers with puerperal psychosis often did make a complete recovery. However this often took many months or even years.

Please let us know if you have any questions and we will do our best to answer them in future newsletters.

Genetics and Puerperal Psychosis

We thought you may be interested in knowing a little more about the background to our molecular genetic studies. The following is mainly taken from an information sheet written by Nick Craddock.

It is becoming increasingly clear that every human characteristic is a combination of nature *and* nurture: i.e., both genetic makeup and environment act together to determine human characteristics. Finding out the genes involved in particular illnesses will not give the whole answer to how they are caused. Environmental factors are also involved.

Diseases for which there is an important genetic contribution fall broadly into two categories:

Simple genetic disorders (also called Mendelian or single gene disorders) - These diseases are usually caused by an abnormality in a single gene, they have simple patterns of inheritance within families. Examples include Huntington's disease, Cystic Fibrosis and sickle cell anaemia.

Complex genetic disorders - this category includes many common diseases, which tend to run in families but for which there is no simple pattern of inheritance. Disease is the result of the interaction of several (sometimes many) genes together with environmental factors. Examples include puerperal psychosis, manic depressive illness, schizophrenia, heart disease, asthma and diabetes.

Why modern genetics is becoming important - Over the last 15 years there has been a revolution in the field of molecular genetics that has provided an important, powerful new tool for learning more about the causes of many human diseases. Methods are now available to identify genes that are involved in an illness, for determining the structure and function of these genes, and for developing improved methods of diagnosis and treatment.

Many genes have already been identified for the single gene disorders and this is leading on to rapid increases in the understanding of the illness and will eventually lead on to more effective treatments. The complex diseases (which include puerperal psychosis) are, as the name suggests, more complicated to study but progress is being made and within the next few years genes will be identified that convey susceptibility to many of the complex disorders.

Basic Genetics

Genes are the basic units of inheritance and contain genetic information. Each gene provides the information that allows a cell to make one of the proteins that make up all the cells in the body. In total, humans have about 50,000 genes and these are the blueprint for all the constituents of an individual. Each cell in the body contains a copy of this blueprint.

The genes lie on chromosomes, which are extremely long molecular chains of a chemical called deoxyribonucleic acid (DNA). The DNA is itself composed of molecule units called nucleotides, which are of 4 types depending on which of 4 chemical bases they contain. The bases are:- Adenine(A), Cytosine (C), Guanine (G) and Thymidine (T). The sequence of bases making up the DNA in any one person is fixed and specific. Humans have 22 pairs of autosomes (chromosomes not involved in sex determination) and one pair of sex chromosomes, making a total of 23 pairs of chromosomes. The sex chromosomes determine the gender of an individual: XX for a female and XY for a male. Down the length of all the chromosomes are particular sites (loci) of base sequences that are the genes. The sequence of bases in the gene carries the information that is required for the cell to make the protein coded by that gene. For example, the sequence of nucleotide bases GCA provides the genetic information for a Glycine amino acid to be incorporated into a protein. When proteins are made using genes as a template, a temporary copy of the gene is made as a chain of a molecule called ribonucleic acid (RNA) and this messenger RNA is then used by the cell as a template from which the proteins are made.

An individual inherits chromosomes, and therefore genes, from his or her parents. One copy of each pair of chromosomes is inherited from the father and one from the mother. An individual, thus, shares half of his or her genes with the mother and half with the father. This is what allows characteristics to be inherited from ancestors and accounts for inherited similarities between relatives.

Why it is important to find genes that are involved in puerperal psychosis?

The causes of puerperal psychosis are not well understood. Although we have treatments that are effective, we do not fully understand the mechanisms by which the treatments act, the treatments are not equally effective in all sufferers and they have unwanted side effects. Finding a gene that is known to influence susceptibility to illness is an important step to improved understanding and better treatments. Once a gene is found it is possible to determine which protein is coded by the gene then to study why changes in this protein are involved in illness and to design medications that act on the protein to treat or prevent illness.

How do we go about finding the genes involved in puerperal psychosis?

The first step is to have a pool of volunteers who have suffered puerperal psychosis and are willing to help with research. Action on puerperal psychosis gives us a pool of members who we know have suffered puerperal psychosis and may be willing to take part in the research. We take blood samples from volunteers and sometimes from members of their families also. In the lab, we can extract the DNA from these blood samples. We can then compare the DNA from women with puerperal psychosis with DNA from women who have not suffered mental illness, or with DNA from women who have manic depressive illness but have not suffered childbirth related episodes of illness.

There are 2 main types of study:

Candidate Gene studies - in this type of research we begin by looking at genes that are already known to encode particular brain chemicals. One example is the serotonin

transporter gene. Serotonin is a brain chemical, which is well known to play a role in mental illnesses such as depression. Another example would be genes relating to the hormone oestrogen, which is thought to play a role in the causation of puerperal psychosis. So far our research has been concentrating mainly on this type of study and there have been some interesting findings which are soon to be published in medical press. Unfortunately we cannot report on these findings before they have been published.

Linkage studies the candidate gene approach is limited by the fact that the function of most of the 50,000 genes is still unknown and relies on guesses about the genes responsible for a condition. The Linkage approach is more systematic. It relies on the fact that every gene has a specific location in our DNA. It uses marker genes whose location **is** known and then looks for "linkage" (i.e. a close location) to the unidentified gene involved in the disease. The approach relies on studying families in which a number of members suffer from the disease being investigated. It tries to identify whether particular marker genes seem to be inherited along with the disease. This then gives an indication of the location of the genes involved in determining susceptibility to that disease. The difficulty with this approach is in finding suitable families to take part.

Contacts

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Changes of Address

Please let us know if your telephone number or address or e-mail address changes.