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BPSU Bulletin

BPSU

The British Paediatric Surveillance Unit (BPSU) is part of the Research Division of the Royal College of Paediatrics and Child Health

Royal College of Paediatrics and Child Health

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Anaphylaxis following immunisation survey to commence in September

Anaphylaxis following immunisation is a potentially life threatening adverse event. It is estimated at 1 in a million doses of vaccine. All primary immunisers are asked to maintain training and facilities in order to be able to recognise and treat anaphylaxis. Despite this investment by front line staff, very little is known about this rare condition. It is important to study rare adverse events both for vaccine safety and public confidence.

Studying rare adverse events to immunisation is not straightforward. Previous studies have been hampered by retrospective data collection and differences in case definitions have also reduced comparability. This study will use the international consensus case definition created by the Brighton Collaboration. The Brighton Collaboration is an international voluntary collaboration to facilitate the development, evaluation, and dissemination of high quality information about the safety of human vaccines. It was established following a meeting of vaccine experts in Brighton, UK in 1999. The Collaboration consists of volunteers from patient care, public health, scientific, pharmaceutical, regulatory and professional organisations coming from developed and developing countries. The application of the Brighton definition will ensure that the results of this study can be compared to other studies across the world. A comparable study of anaphylaxis is currently recruiting through the Swiss Paediatric Surveillance Unit (PSU) and we hope the German PSU will approve a similar study in the near future.

We will use prospective data from BPSU reporters to obtain clinical data on the presentation and management of this rare adverse event. The study will also collect data from other data sources such as the MHRA Yellow Card system during the study period.

BPSU surveillance will be undertaken within the United Kingdom and Republic of Ireland for 13 months, commencing in September 2008 with the study first appearing on the orange card circulated at the end of September.

Please report any child under 16 years old, who in the opinion of the notifying paediatrician may have experienced anaphylaxis following the administration of an immunisation. Please report cases where the diagnosis of anaphylaxis is only suspected, but where you feel that further doses of vaccine are contraindicated. Note that BPSU surveillance **does not** replace other forms of adverse event reporting such as the MHRA *yellow card* scheme.

Please report any new cases seen within that month either acutely or through clinic referral after the event. Details of the study are included in the protocol card that has been circulated with the orange card and are also available at http://bpsu.inopsu.com

Reporters will be asked to complete a short paper questionnaire with a few key identifiers as well as an online questionnaire with further clinical features.

This study has MREC (Ref: 07/H0106/119) and PIAG approval (Ref: PIAG/BPSU 3-05(FT1)/2008) and is funded by an unrestricted educational grant from Sanofi Pasteur MSD.

If you would like advice regarding the eligibility of a particular case for inclusion in the study please contact:

Dr Mich Lajeunesse (inset), Paediatric Allergy, Immunology & Infectious Diseases, Southampton University Hospitals NHS Trust, Southampton SO16 6YD, UK.

Tel: 023 80 79 4335 Fax: 023 8079 5230 Email: mich.lajeunesse@soton.ac.uk

Supported by the Department of Health

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A Founding Father of the BPSU Dies

Professor Nicol Spence Galbraith (inset) one of the founding fathers of the BPSU has, following a long illness, sadly died. Spence as he was known to his friends, was the Director of the Communicable Disease Surveillance Centre of the Public Health Laboratory Service (PHLS [now Health Protection Agency]), between 1976 and 1988. In the early 1980's he identified the need for a system to speedily recognise and monitor newly emerging diseases especially those which were infection associated but for which no specific diagnostic laboratory investigation was available. At the same time paediatricians through the National Childhood Encephalopathy Study (NCES) had been reporting cases of acute infant neurological illness using a monthly report card. Following the end of this project Dr Martin Bellman a member of the NCES team approached Spence to see if the PHLS would participate in a similar national scheme to monitor Reye's syndrome, then a condition of major international concern. With the support of Spence and Dr Susan Hall the then British Paediatric Association, was approached to see if paediatricians would be willing to participate in a surveillance system using a monthly report card to monitor a variety of infectious and non-infectious diseases. From here the BPSU was founded.

Spence was always very proud of the impact of the BPSU but wiithout the foresight, vision, imagination and sheer persistence of Spence Galbraith the BPSU would never have happened.

He was recognised for this achievement and his other contributions to paediatrics through the receipt of an honorary fellowship to the College in 2006. He will be sadly missed.

Further Studies to Commence in Autumn

Three further studies, conversion disorder, toxic shock syndrome and unexpected early postnatal collapse in apparently well newborn babies are due to commence Autumn. Details of the studies are included in the protocol cards which will be circulated with the orange card and are also available at http://bpsu.inopsu.com. If you require further information please contact the investigators direct.

Dr Cornelius Ani (inset) principal investigator on the **Conversion Disorder** reports: "This is a serious condition characterised by motor and or sensory symptoms for which there are no or inadequate medical explanations. The symptoms are not intentionally produced and are associated with significant distress. Affected children are often severely impaired, require prolonged hospital admissions and are at risk of serious long-term complications including, educational failure, social isolation and psychiatric morbidity. Conversion disorder is associated with extensive use of paediatric and allied health resources.

Conversion disorder has been well documented in population studies of children in other countries but no systematic epidemiological study has been conducted in the UK. Given the huge personal suffering and health resources implications of Conversion disorder in children and the lack of epidemiological data in the UK, we propose a study to document the burden, pattern, and short-term outcome in UK and Ireland. This will inform planning of services and allocating resources for caring for affected children.

BPSU surveillance will be undertaken within the United Kingdom and Ireland for 13 months, commencing in October. Child psychiatrists will be involved in a simultaneous surveillance of this condition.

The **reporting definition** is any child aged up to (but not including) 16 years with suspected or confirmed Conversion Disorder seen by a paediatrician for the first time in the last month. If a paediatrician is uncertain or awaiting confirmation, the child should still be reported. On reporting a case a questionnaire will ask about demographic factors, clinical features at presentation, evolution of symptoms, and clinical management including investigations.

This study, which has MREC (Ref: 08/H0711/30) and PIAG (Ref: PIAG/BPSU 3-06(FT1)/2008) approvals, is funded by BUPA Foundation and is being run from the Academic Unit of Child and Adolescent Psychiatry, Imperial College London."

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The fourth Sir Peter Tizard Bursary sponsored study, is on **Toxic Shock Syndrome,** also to commence in October. Dr Shazia Adalat and Dr Tom Dawson (inset), recipients of the bursary outline their study – "Toxic shock Syndrome (TSS) is a serious condition presenting with hypotensive shock and an erythematous rash. It was first described in 1978 in seven children associated with staphylococcal infection. It was subsequently reported in adults associated with retained tampons or burns. During the 1980's a similar toxin mediated illness was described in association with streptococcal infection. Since then, changes in the design of tampons and medical management of burns has led to less discussion in the medical literature.

The incidence of TSS in children has not been measured previously across the UK. A review of coding data revealed 28-38 cases each year in the last 5 years, in the under 14 year age group, although this is felt to be an underestimate. Other sources report less cases than this.

Further Studies to Commence in Autumn

The diagnostic criteria are complex, adding further to diagnostic difficulties. In addition there are differences between diagnostic criteria for staphylococcal TSS and streptococcal TSS. Confusion has arisen in burns units where burns sepsis and septic shock have been labelled TSS whilst not fulfilling diagnostic criteria. Demographics are largely unknown and management is varied. Reports of outcome has been mainly case based. A number of toxins have been reported as causative apart from the well-described TSST-1.

In view of this a UK-wide study is proposed of TSS incidence in children under 16 years of age, patient demographics, clinical features at presentation and short term outcome. Further reporting will come from the major burns units, Picanet (the PICU database) and from the HPA staphlococcal and streptococcal laboratories. This study will aim to identify both streptococcal and staphlococcal TSS."

The **reporting definition** is any child aged up to (but not including) 16 years with suspected or confirmed TSS seen by a paediatrician or burns unit consultant for the first time in the last month. If a paediatrician is uncertain, the child should still be reported. The definition of hypotension in TSS is strict and blood pressure parameters will be available to aid the reporting clinician.

This study, which has Lewisham MREC (Ref: 08/H0810/16) and PIAG Section 251 Support (Ref: PIAG/BPSU 5-07 (FT2)/2008), is funded by the Sir Peter Tizard Bursary and is being run from Evelina Children's Hospital, London.

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November will see the commencement of a survey of Sudden **Unexpected Early Postnatal Collapse in Apparently Well Newborns**, principal investigators Dr Julie – Clare Becher (inset) and Dr Andrew Lyon of Royal Infirmary Edinburgh.

Dr Becher writes – "Sudden unexpected collapse of a healthy term infant in the early postnatal period is a rare and devastating scenario in which 50% of infants die and the majority of survivors suffer severe neurological damage. Although well recognised in individual centres, these infants fail to register nationally, a missing group of 'mortality and morbidity' who are currently under-investigated. Many of the infants reported are found face down on their mother's breasts or abdomen suggesting that significant airway compromise may be a contributing factor during a critical adaptation period. We propose the first national study aimed to describe the incidence, presenting features, investigation and outcome of such infants. Consultant paediatricians will be asked to report all cases of sudden unexpected postnatal collapse every month. A questionnaire seeking demographic and clinical data will be sent to reporting clinicians at the point of notification and again at 12 months to determine outcome. The study's findings will raise the profile of this group and help to establish guidelines for the optimal early postnatal care of all infants. The study expects to demonstrate the widely disparate approach to investigation of these infants and thus highlight the need for a consensus."

BPSU surveillance will be undertaken within the United Kingdom and Ireland for 13 months, commencing in November 2008. Details of the study are included in the protocol card which will be circulated with the November orange.

The **case definition** is: Infants $\geq$37 completed weeks of gestation with a 5 minute Apgar score of $\geq$8 who have a sudden and unexpected collapse in hospital $\leq$12 hours of birth requiring resuscitation and who either die or go on to require intensive care.

Definitions:

'Resuscitation'- positive pressure ventilation by bag and mask or endotracheal tube

'Intensive care'- positive pressure ventilatory support following admission.

Please report any new cases seen from November. If a paediatrician is uncertain or awaiting confirmation, the child should still be reported.

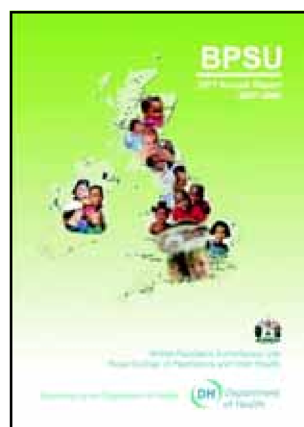
London REC approval (Ref: HO718/47) has been given with PIAG approval pending. WellChild are funding the study which is being run from the Department of Neonatology, Simpson Centre for Reproductive Health, Royal Infirmary of Edinburgh.

Dr Julie-Clare Becher, Consultant and Honorary Senior Lecturer, Dept of Neonatology, Simpson Centre for Reproductive Health, Royal Infirmary of Edinburgh, Little France, Edinburgh EH16 4SA. Tel: 0131 242 2571/2567 Fax: 0131 242 2674 Email: julie-clare.becher@luht.scot.nhs.uk **Dr Andy Lyon,** Tel: 0131 242 2572/2567 Fax: 0131 242 2674 Email: andrew.lyon@luht.scot.nhs.uk

Further News & Analysis

Join the BPSU Executive Committee: Professor Adam Finn and Dr Donal Manning have recently stepped down from the BPSU Executive. Therefore, the BPSU is seeking nominations for their replacement. If you are interested in contributing to this national and internationally respected activity please complete a nomination form which will be circulated with the September RCPCH newsletter. A call for applications has gone out and is included in the RCPCH Autumn newsletter and on-line at http://www.rcpch.ac.uk/About-the-College/RCPCH-Officers/nominations. In the meantime if you wish to know more do not hesitate to email the chairman Professor Allan Colver at allan.colver@ncl.ac.uk or Richard Lynn, scientific coordinator at bpsu@rcpch.ac.uk

Dr Claire Cameron, representative of Health Protection Scotland has been replaced by Dr Kathy Silva.



Conference news: The BPSU is to hold a one day conference on Tuesday 3rd March 2009 at the Royal Institute of British Architecture in London. The day will be based around three themes, infectious disease in children; informing policy and practice and developing partnerships. To receive more information or details of how to book places please email Helen Friend at helen.friend@rcpch.ac.uk or visit www.bpsu.inopsu.com to view the programme.

BPSU 22nd Annual Report 2007 – 2008. This year, to save costs and reduce our carbon footprint a hard copy of the report has recently been circulated only to orange card recipients. The report contains feedback on the current projects underway, includes a detailed section on international activities and the yearly unit analysis. A limited number of additional copies of the report are available from the BPSU office. Alternatively the report can be viewed on the BPSU website at http://bpsu.inopsu.com. To increase awareness of the report we encourage you to place this link on your hospital website.

TABLE 2 - % RESPONSE RATE

Region	% rtnd	Rank
North	93.8%	4 (7)
Yorks	92.1%	9 (11)
Trent	92.9%	7 (3)
EAngl	92.7%	8 (6)
NWT	86.3%	18 (19)
NET	85.0%	19 (20)
SET	88.1%	15 (16)
SWT	86.7%	17 (17)
Wessex	93.8%	5 (4)
Oxford	95.5%	2 (5)
SWest	92.1%	10 (8)
WMids	91.5%	11 (10)
Mersey	87.6%	16 (15)
NWest	89.8%	13 (14)
Wales	96.0%	1 (1)
NScot	95.4%	3 (2)
SScot	89.4%	14 (18)
WScot	84.0%	20 (13)
NIre	93.2%	6 (9)
RIre	90.2%	12 (12)
Total	**90.8%**	

TABLE 3 - ALL CASES REPORTED AND FOLLOW-UPS TO JULY 2008

		VALID	INVALID		NYK		as % of total		
Condition	Started	C/R	D	E	X	Total	C&R	D&E	X
HIV/AIDS	1986	5,296	639	645	439	6,836	76	18	6
CR	1990	75	31	59	3	168	44	53	2
PIND	1997	1,383	299	680	93	2,428	56	40	4
MCADD	2004	171	47	31	104	353	46	21	33
VKDB	2006	5	8	8	14	35	13	42	45
FMAIT	2006	73	10	14	34	116	56	18	26
Genital Herpes	2007	11	0	8	7	19	46	33	21
IIH	2007	23	6	29	91	149	12	19	69
CAH	2007	45	19	11	85	122	32	21	47
Total		**7,082**	**1,059**	**1,485**	**921**	**10,547**	**67**	**24**	**9**

C = confirmed/already known
D = duplicate
E = reporting error or revised diagnosis
X = status not yet reported to BPSU by investigator

HIV	Human immunodeficiency virus in childhood
CR	Congenital rubella
PIND	Progressive intellectual neurological degeneration
MCADD	Medium chain acyl CoA dehydrogenase deficiency
MRSA	Methicillin-resistant Staphylococcus aureus
VKDB	Vitamin K deficiency bleeding
FMAIT	Fetomaternal alloimmune thrombocytopenia
IIH	Idiopathic intracranial hypertension
CAH	Congenital adrenal hyperplasia

ALL DATA IS PROVISIONAL & CONTINUALLY BEING UPDATED