



NEWSLETTER 43 - October 2015

# Progression from severe sepsis in pregnancy to death: a UK population-based case-control analysis

Maternal sepsis, including respiratory, urinary and other infections as well as genital tract sepsis, remains of concern internationally. However, few studies have investigated the factors associated with progression from severe sepsis to death. The aim of this study was to use data from UKOSS and the MBRRACE-UK Confidential Enquiry into Maternal Death to identify factors associated with progression from pregnancy-associated severe sepsis to death in the UK.

43 women who died from non-influenza related maternal sepsis between January 2009 and December 2012 were compared with 358 women who survived severe non-influenza sepsis in pregnancy between June 2011 and May 2012. Only 14 (33%) of the women who died received antibiotics within the 'golden hour'. Women who died were more likely to have never received antibiotics (aOR = 22.7, 95% CI 3.54-141.6), to have medical comorbidities (aOR = 2.53, 95% CI 1.23-5.23) and to be multiparous (aOR = 3.57, 95% CI 1.62-7.89).

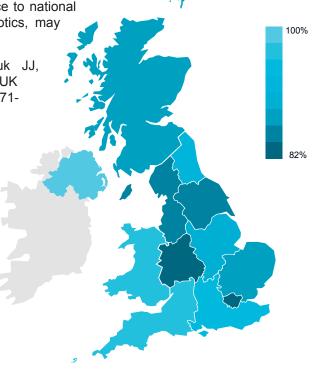
Anaemia (aOR = 13.5, 95% CI 3.17-57.6) and immunosuppression (aOR = 15.0, 95% CI 1.93-116.9) were the two most important factors driving the association between medical co-morbidities and progression to death.

This study emphasises further the importance of continued vigilance for the risks of infection in pregnant women with medical co-morbidities. Improved adherence to national guidelines, alongside prompt recognition and treatment with antibiotics, may reduce the burden from sepsis-related maternal deaths.

**Reference:** Mohamed-Ahmed O, Nair M, Acosta C, Kurinczuk JJ, Knight M. Progression from severe sepsis in pregnancy to death: a UK population-based case-control analysis. BJOG 2015; DOI: 10. 1111/1471-0528.143551.



THIS MONTH



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UKOSS Regional Card Return Rates Map May 2015 to July 2015

Two new studies starting: Epilepsy and Breast Cancer in Pregnancy



#### Thanks to the following hospitals who have returned cards for May, June and July 2015:

Aberdeen Maternity Hospital, Aberdeen Airedale General Hospital, Keighley Alexandra Hospital, Redditch Altnagelvin Area Hospital, Londonderry Antrim Hospital, Antrim Arrowe Park Hospital, Wirral Ayrshire Maternity Unit, Kilmarnock Barnsley Hospital NHS Foundation Trust, Barnsley Basildon Hospital, Canvey Island Bassetlaw District General Hospital, Worksop Bedford Hospital, Bedford Birmingham City Hospital, Birmingham Birmingham Women's Hospital, Birmingham Bradford Royal Infirmary, Bradford Bronglais Hospital, Aberystwyth Broomfield Hospital, Chelmsford Caithness General Hospital, Wick Causeway Hospital, Coleraine Chelsea & Westminster Hospital, London Chesterfield & North Derbyshire Royal Hospital, Chesterfield City Hospitals Sunderland NHS Trust, Sunderland Colchester General Hospital, Colchester Countess of Chester Hospital, Chester Craigavon Area Hospital, Portadown Daisy Hill Hospital, Newry Darent Valley Hospital, Dartford Derby Hospitals NHS Foundation Trust, Derby Derriford Hospital, Plymouth Dewsbury and District Hospital, Dewsbury Diana Princess of Wales Hospital, Grimsby Doncaster Royal Infirmary, Doncaster Dorset County Hospital, Dorchester Dr Gray's Hospital, Elgin Dumfries & Galloway Royal Infirmary, Dumfries East Surrey Hospital, Redhill East Sussex Healthcare NHS Trust, St Leonardson-Sea Epsom General Hospital, Epsom Forth Valley Royal Hospital, Larbert Frimley Park Hospital, Camberley George Eliot Hospital, Nuneaton Glan Clwyd District General Hospital, Bodelwyddan Gloucestershire Royal Hospital, Gloucester Good Hope Hospital, Sutton Coldfield Harrogate District Hospital, Harrogate Hereford County Hospital, Hereford Hinchingbrooke Hospital NHS Trust, Huntingdon Homerton University Hospital, London Horton Maternity Hospital, Banbury Hull Royal Infirmary, Hull Ipswich Hospital, Ipswich James Cook University Hospital, Middlesbrough James Paget University Hospitals Trust, Great Yarmouth Jersey General Hospital, St Helier John Radcliffe Hospital, Oxford Kettering General Hospital, Kettering King's College Hospital, London King's Mill Hospital, Sutton in Ashfield Kingston Hospital, Kingston upon Thames Lancashire Women and Newborn Centre, Burnley Leeds General Infirmary, Leeds Leicester Royal Infirmary, Leicester Lister Hospital, Stevenage Liverpool Women's Hospital, Liverpool Macclesfield District General Hospital, Macclesfield Manor Hospital, Walsall Medway Maritime Hospital, Gillingham Milton Keynes Hospital NHS Foundation Trust, Milton Keynes Nevill Hall Hospital, Abergavenny New Cross Hospital, Wolverhampton

North Devon District Hospital, Barnstaple North Hampshire Hospital, Basingstoke North Manchester General Hospital, Manchester Northampton General Hospital, Northampton Northwick Park Hospital, Harrow Nottingham City Hospital, Nottingham Pilgrim Hospital, Boston Pinderfields General Hospital, Wakefield Poole Hospital, Poole Prince Charles Hospital, Methyr Tydfil Princess Alexandra Hospital, Harlow Princess Anne Hospital, Southampton Princess Elizabeth Hospital, St Martins Princess of Wales Hospital, Bridgend Princess Royal Hospital, Haywards Heath Princess Royal Maternity Hospital, Glasgow Queen Alexandra Hospital, Portsmouth Queen Charlotte's and Chelsea Hospital, London Queen Elizabeth Hospital, Gateshead Queen Elizabeth Hospital, Kings Lynn Queen Elizabeth Hospital, London Queen Elizabeth the Queen Mother Hospital, Margate Queen's Hospital, Burton upon Trent Queen's Hospital, Romford Queen's Medical Centre, Nottingham Raigmore Hospital, Inverness Rosie Maternity Hospital, Cambridge Royal Albert Edward Infirmary, Wigan Royal Berkshire Hospital, Reading Royal Bolton Hospital, Bolton Royal Cornwall Hospital, Truro Royal Devon & Exeter Hospital, Exeter Royal Glamorgan Hospital, Llantrisant Royal Jubilee Maternity Service, Belfast Royal Oldham Hospital, Oldham Royal Preston Hospital, Preston Royal Surrey County Hospital, Guildford Royal Sussex County Hospital, Brighton Royal United Hospital, Bath Royal Victoria Infirmary, Newcastle-upon-Tyne Russells Hall Hospital, Dudley Scarborough Hospital, Scarborough Scunthorpe General Hospital, Scunthorpe Simpson Centre for Reproductive Health, Edinburgh Singleton Hospital, Swansea South West Acute Hospital, Enniskillen Southend University Hospital NHS FT, Westcliffon-Sea Southmead Hospital, Bristol Southport & Ormskirk Hospital NHS Trust, Ormskirk St George's Hospital, London St Helier Hospital, Carshalton St Mary's Hospital, London St Mary's Hospital, Manchester St Mary's Hospital, Newport St Michael's Hospital, Bristol St Peter's Hospital, Chertsey Stoke Mandeville Hospital, Aylesbury Taunton and Somerset Hospital, Taunton The Great Western Hospitals NHS Foundation Trust, Swindon The Hillingdon Hospitals NHS Foundation Trust, Uxbridge The Jessop Wing, Sheffield The Portland Hospital, London Torbay Hospital, Torquay Ulster Hospital, Belfast University Hospital Lewisham, London University Hospital of Coventry & Warwickshire, Coventry

University Hospital of Wales, Cardiff Victoria Hospital, Blackpool Victoria Hospital, Kirkcaldy Wansbeck General Hospital, Ashington Warrington and Halton Hospitals NHS FT, Warrington Watford General Hospital, Watford West Cumberland Hospital, Whitehaven West Middlesex University Hospital, Isleworth West Suffolk Hospital, Bury St Edmunds West Wales General Hospital, Carmarthen Western Isles Hospital, Stornoway Wexham Park Hospital, Slough Whiston Hospital, Prescot Whittington Hospital, London William Harvey Hospital, Ashford Wishaw General Hospital, Wishaw Worcestershire Royal Hospital, Worcester Workestersing Fogat Topathing Working Hospital, Working Wrexham Maelor Hospital, Wrexham Wythenshawe Hospital, Manchester Yeovil Women's Hospital, Yeovil York Hospital, York Ysbyty Gwynedd District General Hospital, Bangor Barnet and Chase Farm NHS Trust Maternity Unit, Barnet Birmingham Heartlands Hospital, Birmingham Borders General Hospital, Borders Croydon University Hospital, Thornton Heath Cumberland Infirmary, Carlisle Darlington Memorial Hospital, Darlington Furness General Hospital, Barrow-in-Furness Guy's and St Thomas' Hospital, London Leighton Hospital, Crew Lincoln County Hospital, Lincoln Luton & Dunstable Hospital, Luton Newham General Hospital, London Ninewells Hospital & Medical School, Dundee Nobles Hospital, Douglas Norfolk & Norwich University Hospital, Norwich North Middlesex University Hospital, Edmonton Peterborough City Hospital, Peterborough Royal Alexandra Hospital, Paisley Royal Free Hospital, London Royal Gwent Hospital, Newport Royal Hampshire County Hospital, Winchester Royal Lancaster Infirmary, Lancaster Salisbury District Hospital, Salisbury South Tyneside NHS Foundation Trust, South Shields Southern General Hospital, Glasgow St James's University Hospital, Leeds St John's Hospital, Livingston St Richard's Hospital, Chichester Stepping Hill Hospital, Stockport Tameside General Hospital, Ashton-under-Lyne The Tunbridge Wells Hospital, Tunbridge Wells University College Hospital, London University Hospital of North Staffordshire, Stoke on Trent Calderdale Royal Hospital, Halifax Princess Royal University Hospital, Orpington Royal London Hospital, London Warwick Hospital, Warwick Whipps Cross University Trust Hospital, London Leicester General Hospital, Leicester Princess Royal Hospital, Telford

Rotherham District General Hospital, Rotherham

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Returned all three cards. Returned two cards. Returned one card. No Cards Returned.

University Hospital of North Durham, Durham

University Hospital of North Tees, Stockton-on-



## **Breast Cancer in Pregnancy**

**Background:** The actual incidence of breast cancer in pregnancy in the UK is not known. Estimates from other countries range from 2.4-7.8 cases per 100,000 births. This gives an estimated 18 to 61 cases per year in the UK. We are seeing women with a history of breast cancer now getting pregnant as survival rates increase, but surveillance of this would inform a further study in the future. Although the incidence of breast cancer rises with age, the observation that many women are delaying their families until later in life means that the incidence of breast cancer arising for the first time in pregnancy may be rising. At the other end of the scale, for women under 30, a significant proportion (more than 10%) of breast cancers may be associated with pregnancy, or within a year afterwards.

The diagnosis of breast cancer in pregnant women may be difficult and there is a potential for under-treatment of the mother and iatrogenic prematurity for the fetus. There is an apparent contradiction between advice in Europe in general and UK specific advice from the RCOG about the timing of interventions and delivery. A group in Australia and New Zealand are conducting a similar study, which will make comparisons hugely informative.

**Objective:** To use UKOSS to determine the incidence of primary breast cancer in pregnancy in the UK and to describe its management as well as the short-term outcomes for both mother and infant.

Surveillance Period: 1st October 2015 - 30th September 2017

Case Definition: Any woman meeting one of the following criteria:

- · Newly diagnosed case of breast cancer during pregnancy
- First pathological diagnosis of breast cancer during pregnancy
- A new confirmed diagnosis of breast cancer during pregnancy

### Excluded:

- · Breast cancer diagnosed before pregnancy
- · Recurrence of breast cancer in current pregnancy

Lead Investigator: Philip Banfield and Claudia Hardy, Betsi Cadwaladr University Health Board (BCUHB)

**Note:** Some responses may require consultation with the woman's oncology team and so all data collection forms will have a separate oncology section.



# Extension to the Aspiration study

Please note that the UKOSS study 'Aspiration in Pregnancy' has been extended up until 31st August 2016. Therefore the study will continue to be on the monthly report cards.

## Case report summary for current studies up until the end of Sept 2015

Disorder	Actual number of reported cases	Data collection forms returned (%)	Number of confirmed cases (%)	Expected number of confirmed cases
Amniotic Fluid Embolism	216	204 (94)	140 (67)	127
Anaphylaxis	61	52 (85)	35 (67)	87
Aspiration in Pregnancy	10	9 (90)	4 (44)	30
Cystic Fibrosis	26	17 (65)	8 (47)	26
Epidural, Haematoma or Abscess	13	10 (77)	8 (80)	3
Gastric Bypass in Pregnancy	220	164 (75)	86 (52)	51
Pulmonary Embolism	78	40 (51)	19 (48)	76
Vasa Praevia	64	45 (70)	20 (44)	99

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# **Epilepsy in Pregnancy**

**Background:** Between 2010 and 2012, 14 maternal deaths were attributed to epilepsy, more than any direct cause of death with the exception of thrombosis, and unchanged from 2006-8. Of these 14 deaths, 12 were classified as cases of 'Sudden Unexplained Death in Epilepsy' (SUDEP). Whilst the definition of SUDEP implies a diagnosis of exclusion, expert-consensus maintains that generalised tonic-clonic seizure activity is likely to be a sentinel event leading up to death. As such, it follows logically that women in whom generalised tonic-clonic seizure activity persists during pregnancy have an increased risk of mortality.

Treatment goals for women with epilepsy in pregnancy target a seizure free 'steady-state' before conception on the basis that 1) the risk of seizures during pregnancy reduces as a function of the length of the seizure-free period before conception, and 2) those women who are able to remain seizure free for >12 months prior to conceiving are highly unlikely to have a recurrence of seizure activity when pregnant. Whilst this is certainly feasible for the majority of women, it is clear that seizures persist for a minority of women in whom it is considered that treatment plans are adequate. What is unclear amongst this group of women with poorly controlled epilepsy, is the relative contribution of women with severe, drug-resistant epilepsy versus the proportion of women whose disease management is suboptimal, or in whom fears about the potential for teratogenic side effects when using anti-epileptic drugs compromises their treatment adherence.

**Objective:** To use UKOSS to determine the incidence of poorly controlled epilepsy amongst pregnant women in the UK and examine the management of the condition as well as maternal and neonatal outcomes.

Surveillance Period: 1st October 2015 - 30th September 2016

Case Definition: Any pregnant woman in the UK who fulfils at least one of the following criteria:

- A woman with epilepsy who dies during pregnancy or up to day 42 postpartum, where the cause of death is directly attributed to the consequences of epilepsy, including SUDEP.
- A woman with epilepsy who is admitted to hospital as an inpatient for management of generalised tonic-clonic seizures during pregnancy or the postpartum period.
- Any woman being treated with >3 anti-epileptic drugs simultaneously at any point during their pregnancy.

**Lead Investigators:** Bryn Kemp and Marian Knight, NPEU; David Williams, University College Hospital; Andrew Kelso, Barts Health NHS Trust.



## GMC Revalidation and NMC Continual Professional Development

We are aware that as part of your GMC revalidation or NMC Continual Professional Development, you are required to provide



evidence of participation in national audit and research. If any UKOSS reporters would like to receive a certificate confirming their contribution to UKOSS, please email us at *ukoss@npeu.ox.ac.uk* and we will post one to you.

Chocolate Box



Chocolates this month go to Katrina Mleczko at West Middlesex Hospital for identifying additional cases of ITP and returning the data promptly and to Anne-Marie Whiting from Torbay Hospital for timely return of monthly report cards and data collection forms.

Many thanks to you both!



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