We attempted to control for the effects of time by having patients re-evaluated 24 hours after admission, as change in symptoms and signs can be an important adjunct in diagnosis. This was arguably both a strength and a weakness. One weakness was the possibility for confounding factors—seven patients receiving early computed tomography underwent other radiological investigations and 13 patients receiving standard practice underwent off-study or delayed computed tomography. No differences emerged in the results between the intention to treat and as treated analyses. Limiting the study to weekends may have influenced referral patterns, timeliness of investigations, and clinical decision making.

The most likely reason for the non-significance of the results of our main outcome measures is that our study was underpowered, being based on a difference in length of hospital stay of 1.5 days.

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Contributors: See bmj.com

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What is already known on this topic

Computed tomography improves the accuracy of diagnosis of several acute abdominal conditions

Uncontrolled studies have shown improvements in accuracy of diagnosis after computed tomography; none have described an effect on mortality

What this study adds

Early abdominopelvic computed tomography for acute abdominal pain can identify unforeseen serious abdominal conditions

It may also reduce length of hospital stay and may reduce inpatient mortality

Prevalence of gastroschisis at birth: retrospective study

Gian Luca Di Tanna, Aldo Rosano, Pierpaolo Mastroiacovo

Gastroschisis is a congenital defect of the abdominal wall, characterised by herniation of abdominal viscera outside the abdominal cavity through a defect in the abdominal wall to the side of the umbilicus.[1] Recent studies showed an increase in the prevalence of gastroschisis at birth but gave no convincing explanation.[2 3] We describe the temporal and geographical variation in this prevalence, using data from the International Clearinghouse For Birth Defects Monitoring Systems, founded in 1974, which fosters sharing information and collaboration among the programmes that monitor birth defects worldwide. Currently, 36 programmes from Europe, the Americas, Asia, Australia, and South Africa participate in the clearinghouse and cumulatively monitor 3.3 million births each year. The head office of the clearinghouse, the International Centre for Birth Defects, registers and evaluates these data.

Participants, methods, and results

We selected registries that provided information on at least 10 consecutive years including 1998 and analysed births occurring between 1974 and 1998 from 19 registries (see bmj.com). The numerators of the prevalences (see table) include liveborn and stillborn babies with gastroschisis (isolated or associated with other defects); denominators are the total numbers of births. Registries used their own diagnostic criteria and definitions of gastroschisis and omphalocele, but we found no substantial differences.

We estimated annual prevalence at birth and 95% confidence intervals from the data and analysed temporal trends using Poisson regression. We used χ^2 tests to test for heterogeneity of birth prevalence among registries. We compared the time distributions of gastroschisis and omphalocele by using the Spearman non-parametric correlation test to exclude negative correlations that might suggest shifts in classification of defects from omphalocele to gastroschisis.

The 19 registries recorded 3073 cases of gastroschis. The overall prevalence at birth was 0.29 (95% confidence interval 0.21 to 0.40) per 10 000 births in 1974 and 1.66 (1.51 to 1.85) per 10 000 births in 1998. Prevalences varied among programmes. Nine areas had significant increases in the prevalence of gastroschisis at birth (table 1) from Europe (five registries), Australia, Japan, and the Americas (two registries).

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Prevalence and 95% confidence intervals of gastroschisis at birth in registries that showed significant increases. Rates are per 10 000 births

			Earliest		Latest		
Registry	No of cases	No of births	Rate (95% CI)	Year	Rate (95% CI)	Year	PRR (95% CI)
Australia	593	4 140 849	0.88 (0.42 to 1.62)	1981	2.65 (2.06 to 3.35)	1997	1.08 (1.06 to 1.10)
Finland	97	947 072	0.92 (0.33 to 2.00)	1984	1.92 (0.96 to 3.44)	1998	1.11 (1.05 to 1.16)
France (central east)	180	1 932 649	0.15 (0.00 to 0.82)	1978	1.46 (0.82 to 2.42)	1998	1.04 (1.01 to 1.06)
France (Paris)	92	659 523	0.00 (0.00 to 1.04)	1981	2.69 (1.29 to 4.95)	1998	1.11 (1.07 to 1.16)
Ireland (Dublin)	30	395 528	0.00 (0.00 to 1.47)	1980	1.56 (0.30 to 4.58)	1998	1.15 (1.07 to 1.23)
Japan	361	2 931 758	1.01 (0.43 to 2.00)	1974	2.28 (1.43 to 3.46)	1998	1.03 (1.02 to 1.05)
Mexico	161	820 987	1.20 (0.38 to 2.81)	1980	4.93 (2.87 to 7.90)	1998	1.06 (1.03 to 1.10)
Norway	265	1 403 783	0.99 (0.36 to 2.17)	1974	3.07 (1.82 to 4.86)	1998	1.04 (1.02 to 1.06)
South America	353	3 565 511	0.12 (0.00 to 0.67)	1974	2.88 (2.07 to 3.90)	1998	1.16 (1.13 to 1.18)

PRR=Prevalence rate ratio per annual change according to Poisson regression model.

To assess whether such an increase might be explained by a diagnostic shift of the abdominal wall defects, we analysed the time trends of omphalocele in these registries. One registry (Australia) had a mild decrease of omphalocele, three registries had significant increases, and the remaining six registries had no temporal trend. The distributions of gastroschisis and omphalocele over time were not negatively correlated.

Comment

Prevalence of gastroschisis at birth increased in nearly half of the registries studied, beginning at the end of the 1980s in several areas. Such an increase may be even greater than shown here, because of possible under-reporting of cases among selective pregnancy terminations,[4] particularly in areas such as France and the Netherlands, where the proportion of selective terminations is high. The increased prevalence of gastroschisis is unlikely to be explained by a systematic shift in the classification of abdominal wall defects. The speed at which the increase has occurred suggests environmental rather than genetic risk factors.

Selective termination and systematic shift in classification should be assessed in a multicentre case-control study. Because children of young mothers are more susceptible to gastroschisis,[5] shifts in maternal age distribution should also be investigated. Geographical spread and magnitude show that increased prevalence of gastroschisis at birth is "epidemic."

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Mortality from methicillin resistant *Staphylococcus aureus* in England and Wales: analysis of death certificates

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The number of infections caused by methicillin resistant *Staphylococcus aureus* (MRSA) is increasing every year in England and Wales.[1 2] These infections are more difficult to treat than others because of the resistance of the bacterium to first line antibiotics. The impact of these infections on mortality has been unknown; data on the mortality caused by MRSA infections is not routinely available because the international classification of diseases (ICD) has no code for these infections. The evidence that the infections are associated with a higher mortality than methicillin sensitive *S aureus* infections is equivocal.[1] We used death certificates to examine the evidence that mortality due to MRSA and staphylococcal infections in England and Wales is increasing.

Methods and results

In 1993 redevelopment of the processing systems for death registrations in England and Wales enabled death registration data to be analysed by all conditions mentioned on death certificates (rather than by the final underlying cause alone).[3] ICD-9 (ICD, 9th revision) was in use during the period of this study.

We examined all death registrations in the Office for National Statistics database with ICD-9 codes 05.0, 08.4, 038.1, 041.1, 320.3, and 482.4, indicating staphylococcal infection, on any part of the death certificate for deaths that occurred between 1 January 1993 and 31 December 1998. We manually identified the inclusion of MRSA by noting the text entered on