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Successful pregnancy after paratopic segmental pancreas and kidney transplantation

Over 1500 successful pregnancies have been reported in women taking immunosuppressive drugs after renal transplantation. Only nine pregnancies have been reported after renal transplantation in diabetic women,¹ although survival of diabetics after transplantation and of renal grafts in diabetics has improved considerably.² We report a successful pregnancy in a patient who had received a combined renal and segmental pancreas transplant.

Case report

A 22 year old woman with insulin dependent diabetes from the age of 7 and renal failure due to Goodpasture's syndrome had a haemoglobin A_{1c} concentration of 6.5% (normal range 6.0-8.5); C peptide could not be detected in her serum. She required insulin 0.6 U/kg/day. She received a combined transplant of a kidney and paratopic segmental pancreas from the same donor in May 1984, after which she immediately became normoglycaemic. She remained independent of insulin and did not need to restrict her diet or take oral hypoglycaemic agents. Immunosuppressive treatment was 400 mg cyclosporin A and 9 mg prednisolone daily. She became pregnant 27 months after transplantation.

Plasma creatinine concentration fell from 203 µmol/l at conception to 134 µmol/l at four months and rose to 172 µmol/l after delivery. Creatinine clearance rose from 33 ml/minute at conception to 63 ml/minute at five months and fell to 30 ml/minute after delivery. She did not have proteinuria, control of blood pressure did not deteriorate, and she did not develop urinary tract infections. Fasting blood glucose concentrations were normal, ranging from 3.5 to 4.3 mmol/l, and 24 hour metabolic profiles were within an acceptable range. Fasting insulin and proinsulin concentrations and results of oral glucose tolerance tests were within the range of concentrations seen in six healthy volunteers. She did not have peripheral hyperinsulinaemia. Immunosuppressive treatment was maintained at the prepregnancy dosage.

Ultrasound scans at 14, 18, 25, and 28 weeks' gestation showed a single viable fetus with a steady growth rate and an adequate volume of liquor. At the beginning of the 35th week ultrasound showed a decrease in the fetal growth rate and an elective caesarean section was performed. A healthy but small baby girl weighing 1690 g and with an Apgar score of 7 was delivered in good condition and with no congenital abnormalities. At nine months the child showed normal development.

Comment

Combined renal and pancreatic transplants in diabetic patients make possible a normal lifestyle and independence from insulin. In addition, the paratopic position of the segmental pancreas graft allows endocrine drainage through the portal vein with diversion of the pancreatic fluid into the stomach.³ Our patient tolerated her pregnancy well: the glomerular filtration rate showed a physiological response, there was no deterioration of glucose control, and the dosage of immunosuppressive drugs did not have to be increased. Peripheral hyperinsulinaemia did not occur, though it occurs during conventional insulin treatment and has been reported after heterotopic pancreatic and renal transplantation in diabetics.

Specific risks of immunosuppressive treatment with cyclosporin A with respect to the course and outcome of pregnancy have not been assessed. Very high doses of cyclosporin A (25 mg/kg/day) for over eight months induced cataracts in rats,⁴ and bilateral cataracts were reported in a child born after the mother received a heterotopic segmental pancreatic transplant with a simultaneous kidney graft.⁵ This cataractogenic effect has not, however, been reported in patients treated with long term cyclosporin A. In our patient no specific complications related to treatment with cyclosporin A were seen.

This case report suggests that a well functioning kidney transplant and segmental pancreas allograft have sufficient functional reserve to cope with the physiological stress of pregnancy.

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Routine ultrasound screening in management of abdominal aortic aneurysm

Abdominal aortic aneurysms may not cause any symptoms before rupturing and resulting in sudden death. In 1985 rupture caused 2861 deaths and accounted for nearly 1% of all deaths of men aged 65-79. Women in this age group are five times less likely than men to die of a ruptured abdominal aortic aneurysm. Rupture is the third most common cause of sudden death.¹ It carries a high operative mortality (33% in a recent survey in our district, where mortality after planned operations in selected cases was less than 2%). We assessed the benefit of offering ultrasound scanning to elderly patients.

Patients, methods, and results

Patients aged 65-80 in a general practice were offered ultrasound scanning. A total of 1404 scans was performed with a real time linear array ultrasound scanner (Picker LS 1500). The full length of the aorta and any non-aortic abnormalities were photographed and reported by a consultant radiologist.

Of the 1312 patients (93%) whose scans successfully identified the aorta, 1236 were not followed up as the aorta was <3.0 cm in diameter; 62 were seen within one year (42 with aorta measuring 3.0-3.4 cm and 20 with aorta 3.5-4.4 cm), 10 within three months (aorta 4.5-5.9 cm), and four within one month (aorta ≥6.0 cm). Three patients had successful operations on the aneurysm, one of which ruptured a few days before the planned date of the operation. Five patients died, none from ruptured abdominal aortic aneurysm.

Other abnormalities detected during scanning were cysts (18 patients), gall stones (29), and other conditions (11).

Comment

The technique for detecting asymptomatic abdominal aortic aneurysm proved effective as a routine procedure. The median size of the aorta just above the swelling was 1.5-2.0 cm, and if the swelling was more than twice the original size of the aorta it was classed as an aneurysm. Expansion of more than 1 cm a year was considered to be a risk factor. Dilatation of 3.0 cm

or more was chosen as warranting follow up to ensure that patients at risk were not missed, although few aneurysms in this category increased in size and dilatation of 3.5 cm or more was a more realistic definition of a potentially dangerous aneurysm. In the patients who subsequently had operations the aorta measured more than 5.0 cm in diameter on screening. No patient whose aorta was less than 4.5 cm in diameter needed an operation.

To detect patients at risk and yet avoid unnecessary surgery the incidence and rupture of abdominal aortic aneurysms in the community need to be studied. Longer follow up as this study continues will clarify the importance of the risk factors—namely, the size of the aorta, the ratio of the size of the aneurysm to that of the normal aorta, and growth rates—thereby simplifying identification of patients at risk of rupture. Surgery can then be planned to suit the patient's general medical condition rather than having to be performed as an emergency procedure on rupture, and patients who are medically unfit need not undergo surgery should rupture occur. This would

result in considerable savings in terms of cost and manpower as well as prevent unnecessary suffering to the patient.

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Prevalence of irritable bowel syndrome in a non-Western population

The irritable bowel syndrome is widely recognised as one of the most common gastrointestinal disorders.¹ Surveys of healthy British subjects and American subjects not seeking health care showed a high proportion of people with symptoms similar to those of the irritable bowel syndrome.^{2,3} This might not, however, be the case in non-Western societies. We estimated the prevalence of the irritable bowel syndrome among the Thai population by questionnaire.

subjects, and spastic irritable colon was also significantly less common than in the American subjects.

The reason for the low prevalence of symptoms similar to those of the irritable bowel syndrome among Thais is not known. A significantly lower proportion of Thai than American subjects reported changes in bowel pattern and abdominal pain in response to stress. The importance of this is not clear because the urban group, who reported a significantly greater

Comparison of data and prevalence of irritable bowel syndrome among Thai subjects and American and British subjects

	Rural group	Urban group	Combined Thai groups	American subjects ³	British subjects ²
No of subjects	401	676	1077	789	301
Mean age (years)	41	31	36	24	
% (No) of women	56 (225)	31 (210)	40 (431)	58	55
Mean (SD) No of stools/week	7.2 (3.2)	8.5 (4.9)	8.0 (4.4)		
% (No) of subjects:					
With change in bowel pattern due to stress	3.5** (14)	21.3 (144)	14.5 (156)	70.5**	
With abdominal pain due to stress	1.8** (7)	15.5 (105)	10.4 (112)	54.1**	
Taking laxatives (> once a month)	9.0* (36)	5.2 (35)	6.5 (70)	3.4*	
With bowel dysfunction†	0.8 (3)	0.3 (2)	0.5 (5)	17.1**	
With spastic irritable colon‡	5.7 (23)	4.3 (29)	4.4 (47)	22.3**	13.6**
With painless diarrhoea§	0*	3.6 (24)	2.3 (25)	4.9*	4.7
With painless constipation	9.5 (38)	7.1 (48)	8.0 (86)	17.5**	10.3
With subjective constipation¶	22.9 (92)	24.6 (166)	23.4 (252)		

†Alternating bowel function and irritable bowel type pain, diarrhoea, constipation, or any such combination.³

‡More than six episodes of abdominal pain in the past year and three or more of the six other symptoms specified in table.³

§Loose or watery stools more than 25% of time.³

||Straining at stools more than 25% of time.³

¶Defined by each subject.

*p<0.05, **p<0.01 for rural compared with urban groups; combined Thai groups compared with American subjects; and combined Thai groups compared with British subjects.

Patients, methods, and results

We designed a questionnaire based on one supplied by Drossman *et al.*³ To ensure good cooperation from the subjects we selected mainly people who knew us. One group comprised all (401) adults from two adjacent farming villages in Chantaburi Province, about 300 km from Bangkok (rural group). The other group comprised all (676) local employees of a luxury hotel in Bangkok (urban group). To avoid potential misunderstandings the questionnaires were completed by the subjects or a nurse during interviews with nurses familiar with their content.

Statistical analysis was by the χ^2 test, and significance was taken as p=0.05.

The response rate of the rural group was 86%, and of the urban group 84%. In both groups 96% of the subjects had between three stools a week and three a day. The table shows our findings compared with those of the two other studies.^{2,3}

Comment

The range of stool frequency in both rural and urban Thai subjects was similar to that in other reports.^{3,4} In the American study bowel dysfunction was defined by fairly strict criteria consistent with those defining the irritable bowel syndrome.³ When we used these criteria our subjects had a much lower prevalence of bowel dysfunction than the Americans. Thompson *et al* used more liberal criteria and defined three types of irritable bowel syndrome: spastic irritable colon, painless diarrhoea, and painless constipation.² The prevalence of all three types was fairly high in the British subjects and in the American subjects when the same criteria were used. All three types were significantly less common in our subjects than the British

influence of stress than the rural group, did not have a higher prevalence of symptoms like those of the irritable bowel syndrome. Laxatives were taken significantly more commonly by Thai than American subjects, which might be explained by the high percentage of Thais recording subjective constipation.

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