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High twin birth rate of offspring in mothers with cardiac disease

Kalp hastalığı olan annelerde ikiz çocuk doğum oranı yüksekliği

Twins constitute 2%-4% of all births, of course the rate of twinning has increased by 76% between 1980 and 2009 (1). Indeed the number of twins has doubled and the rate of twin births has risen by more than three-fourths over the three decades 1980-2010. Increases in twin birth rates averaged more than two percent annually from 1980 to 2005, and the pace of increase slowed to less than 1 percent from 2005 to 2010 (1, 2). However, we did not find any study about the relation between mother's heart disease and twin birth rate, so we reviewed 200 pregnant women with cardiac disease and mean age 29.4±4.28 years. The incidence of various cardiac disease in pregnant women were as follow: valvular heart disease 138 cases (64%), dilated cardiomyopathy 19%, hypertrophic cardiomyopathy 2 patients (1%), not corrected or significant residual congenital heart disease in 28 women (14%) and aneurysm of aorta were found in 4 cases (2%). In addition, our result showed that 55 women (27.5%) had EF<25% and 72 cases (36%) had pulmonary hypertension (pulmonary artery pressure ≥40 mmHg). These patients delivered 216 offspring; that 16 neonates (8%) were twins, high rate of twinning.

However, the mechanisms by which mother's heart disease in the high twin birth rate may occur remain elusive, and the involvement of glucocorticoids or stress hormones indicating a true influence of stress itself remains unstudied, so parental hormone levels around the time of conception may be important in control the twinning of offspring (3-5). Older maternal age accounts for about one-third of the growth in the twinning rate. The increased availability and use of infertility treatments likely explains much of the remainder of the rise (1). Similar increasing trends in multiple births associated with both maternal age and infertility therapies have been observed in Western Europe and other countries during the 1980s and 1990s (1, 2).

Medical considerations included the risks of continuation of the pregnancy for the mother and her twins, or the safety of termination (total or selective). The gestation and the viability of the twins played an important role in decision making and approaches, taking into account the local legal and other considerations (2, 3).

Optimal counseling requires sound clinical knowledge about the medical risks to the mother with heart disease and her twins, and a clear understanding of the key ethical considerations (2).

We believe this is the first report of the relation between twinning rate and mother's cardiac disease. This finding should thus be considered hypothesis-generating and future studies that examine this idea may be warranted.

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On increasing number of percutaneous mitral valve repair with MitraClip in Turkey, and the fate of the high-risk patients

Türkiye'de mitral kapağın perkütan MitraClip ile onarım uygulamalarının artışı ve yüksek riskli hastaların kaderi

MitraClip (Abbott Vascular, Abbott Park, Illinois, USA) is the first percutaneous device to repair severe mitral regurgitation (MR) (1) pioneered by Alfieri (2). Mitral repair is much favorable to replacement and MitraClip procedure may be considered in patients who fulfill the echocardiographic criteria of eligibility (class IIb, evidence C) (3).

An increasing number of MitraClip is being used to repair severe MR in Europe received CE approval and has been tested with clinical registries in USA (not approved by FDA yet) (4) where MitraClip is suggested as an acceptable procedural success rate (i.e. postprocedural MR ≤2+) of around 75%, is relatively safe and generally well-tolerated

(3). Valve repair surgery is still a gold standard approach, but surgical risk rises in patients with STS score >10% (5).

Turkish population is 75.6 million and ~7% of them were over 65 years of age according to Turkish Statistical Institute data (TUIK) in December 2012. In Turkish population compared with other European countries, it is being anticipated that a large quantities of patients may be candidate for mitral valve repair, although we do not have statistical data that how many patients with severe MR has already been denied by the surgery (Video 1. See video/movie images at www.anakarder.com). From Alfieri's approach to 2013, besides the experience gained, improvements in devices and technique success rate increased to >75%. At first MitraClip procedure was performed in Turkey in late 2010, and then followed by another center with an acceptable procedural success rate reaching up to 90%. On that good success and courage with interviews, Turkish Ministry of Health finally began to support MitraClip procedure in a particular group of training hospitals with a special budget making a pivotal financial plan in mid-2012 (Video 2, 3. See video/movie images at www.anakarder.com). Turkish Ministry of Health, under the new health care program, has decided to reimburse MirtaClip device in particularly selected university and public training and research hospitals which might be capable to do this procedure in January 2013. Therefore, MirtaClip procedure has begun in İstanbul American (late 2010) and Acıbadem (early 2012) hospitals then followed by Mehmet Akif Ersoy and Atatürk Public Training Hospitals, and lastly it will be applied in Bezmialem hospital soon, as the fifth center. So far MitraClip procedure was performed totally in 47 cases; 2 in 2010, 4 in 2011, 33 in 2012 and 8 cases in 2013, and the number of the cases have been increasing rapidly.

Cardiologists must be very careful and retain the property of acting ethically, because the excitement created by the interventional therapy may increase the unethical behaviors that had been experienced in the early period of widespread use of drug eluting stents. MitraClip procedure is not only an innovation, but also an excellent example for a novel interventional therapy which is successfully being performed with collaboration of cardiac team and making decision for MitraClip procedure should be performed together with cardiovascular surgeon and cardiologist. On the other hand, operator training is a crucial component of MitraClip procedure, and it is also essential for the candidate center to have experience on coronary, endovascular and structural heart interventions; sufficient infrastructure (hybrid operation theater), and surgical support. The cost is important issue for national economy in our country, so the MitraClip cases should be carefully selected from high-risk patients denied by surgeon, because surgery is still first chose therapy for the patient with severe MR. MitraClip is a promising intervention and will probably be offered to a wider group of patients in the future. However, the heart team must be fully aware of

the clinical concept and rationality of MitraClip bearing the economic reality of Turkey in mind. Cardiologists must not be hasty and impatient to perform MitraClip in an unrealistically liberal way. A national health policy must be established with collaboration of Turkish Cardiovascular Societies and Ministry of Health. Each innovative method and technological device must certainly be transferred to clinical practice by experienced training centers with a concept of team approach.

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Video 1. Transesophageal echocardiography shows severe mitral regurgitation

Video 2. Fluoroscopic image of MitraClip detachment

Video 3. Transesophageal echocardiography shows trace grade mitral regurgitation after MitraClip grasping

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