심장내 이물질: 선행 원인이 불분명한 환자에서 발견된 우심실내 봉합침

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=Abstract=

Intracardiac Foreign Body: A Sewing Needle in Right Ventricle of Unknown Etiology

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A 34 year-old woman was hospitalized with anterior chest pain and indigestion. Chest radiograph and computed tomogram revealed a sewing needle in the cardiac cavity. She had no histories of surgical intervention, drug abuse, or acupuncture. We removed the needle from the right ventricle under cardiopulmonary bypass.

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Key word : 1. Foreign bodies
2 Needles

Case

A 34 year-old female visited outpatient clinic due to anterior chest pain and indigestion which were lasting for 5 months. We checked chest radiographs and detected a needle-like material in the heart. She denied any personal histories related to self-inflicted behavior, trauma, surgical instrumentation(including acupuncture), etc. By mental status examination, she had no evidence of psychosis. On computed tomography of the chest, a sewing needle in right cardiac chamber was noted. Initially, we decided to perform an endovascular intervention for needle removal. On angiographic scout film(Fig. 1), a needle which is located through tricuspid valve was seen. Right internal jugular venous puncture was done and pigtail catheter was introduced. Despite of several times of trials to remove the needle, the intervention failed. During the procedure, the radiologist felt the needle being fixed to the adjacent cardiac chamber. So, we planned open heart surgery to remove it. Minimally invasive T-shaped sternotomy at 2nd ICS was done. The tip of the sewing needle was felt just beneath the inferior portion of right atrial appendage, so we tried to remove it via a small atriotomy. However, the needle was immobile from the inner cardiac wall and we failed to remove it. Under the cardiopulmonary bypass, both venae cavae were snared down, a right atriotomy was

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Fig 1. Angiographic scout film A needle is located below the tip of the pig-tail catheter around tricuspid valve

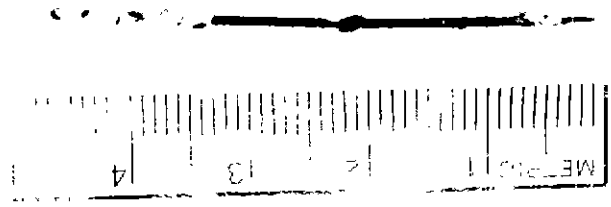

Fig 2. Extracted sewing needle

done. The tip of the needle was not seen in right atrium, actually it was hidden below the tricuspid valve leaflet at anteroposterior commissure and was impacted in anterior free wall of the right ventricle. There were no vegetations or thrombi. We performed a 5mm incision at leaflet parallel to the tricuspid annulus and removed the needle. The needle was not easily pulled out with forceps. We could remove it with the aid of Kelly clamp. The leaflet was repaired with interrupted 5-0 prolene sutures. Cardiopulmonary bypass time was 47 minutes and there were no events during operation. The extracted needle was about 4.5 cm sized in length and had some greenish red color(Fig. 2). The patient was extubated 5 hours postoperatively and was discharged without problems on the 7thpostoperative day. She did not complain chest pain and indigestion any more.

Discussion

Foreign bodies in the heart may have various sources of entry. The endogenous modes of entry reported have been a duodenal-vena caval sinus tract or a perforated larynx, esophagus, or stomach[1,2]. Most needles in the heart reported were via exogenous origins and the patients had history of drug abuse, surgical instrumentation, and so on[3,4]. An intracardiac needle can give rise to pericarditis, infective endocarditis, and thromboembolism[2]. In some cases, valvular dysfunction has been reported[5]. Chest radiographs(anteroposterior and lateral projection) were useful tool to identify an intracardiac foreign body and for diagnostic confirm, computed tomography had an important role[6]. Hodlefer et al[7] listed the surgical indications of intracardiac foreign bodies as follows: 1) to prevent embolization of the foreign body and/or the associated thrombus 2) to reduce the danger of bacterial endocarditis 3) to prevent recurrent pericardial effusions 4) to diminish the danger of myocardial damage with subsequent abscess and/or aneurysm and rupture. If the needle was floating or not fixed to chamber wall, intervention might have a role to remove it. In this case, as the needle was impacted in ventricular free wall just beneath the leaflet of the tricuspid valve, interventional removal was not successful and cardiopulmonary bypass was used[8].

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=국문초록=

34세 여자가 전흉부 통증 및 소화불량을 주소로 내원하여 시행한 흉부 방사선 촬영 및 컴퓨터 단층촬영에서 심장 내부에 바느질용 바늘이 발견되었다. 환자는 과거에 수술적 조작이나 약물남용 또는 침술을 시행받았던 병력은 없었다. 삼첨판막 아래의 우심실 벽에 꽂혀 있던 바늘을 심폐바이패스하에 성공적으로 제거할 수 있었다.