性と換気量に直接反映したものと考える。最大吸気のみ相関が得られたのは、安静吸気では上位胸郭や腹部などで呼吸運動が生じていたのに対して、最大吸気ではより効率的な呼吸筋である横隔膜が強く作用したためと考える。

横隔膜の作用を高めることは呼吸努力や呼吸仕事量を減少させるため、今回得られた結果はその基礎的データとなると考える。

P3-72.

Functional evaluation of rat heart transplanted after preservation in a high-pressure carbon monoxide and oxygen mixed gas

（大学：人体構造学）
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We recently succeeded in resuscitating an extracted rat heart following 24 to 48-hours preservation in a high-pressure mixture of carbon monoxide（CO）and oxygen（O_2）. This study aimed to examine the function of transplanted rat heart after preservation in the high-pressure CO/O_2 gas mixture.

The hearts of donor rats were preserved in a chamber filled with CO and O_2 under high pressure for 24h（CO24 h）or 48 h（CO48 h）at 4℃. As a control（C）group, transplanted rat hearts immediately after extraction were used. As the negative control group, the preserved rat hearts in the air, UW solution and extracellular fluid with 5% glucose for 24 h or 48 h were used. The preserved hearts were then transplanted into recipient rats by heterotopic cervical heart transplantation.

Post-transplantation heart rate and weight did not differ significantly between the C and CO24 h group. Light microscopically, the myocardium in post-transplanted hearts at 90 min from CO24 h and C group maintained almost normal tissue structure and shape. Immunohistochemically, the number of TUNEL-positive myocardial cells in CO24 h group showed no significant change compared to C group. FDG-PET analysis revealed that there was no significant difference in［^{18}F］-FDG accumulation in post-transplant hearts between the C and CO24 h group.

These results indicate that the function of rat hearts is well preserved after 24 hours of high-pressure preservation in CO and O_2. Therefore, high-pressure preservation in a gas mixture can be useful for organ preservation.

P3-73.

The association of central hemodynamics and serum markers with cardiovascular disease in Japanese men

（大学院博士課程 3 年循環器内科）
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【Background】 Arterial stiffness, central hemodynamics, and serum markers of cardiovascular damages have been focused as predictors of cardiovascular morbidity and mortality in the general population.

【Aim】 This study was conducted to examine the association of these markers with cardiovascular disease in Japanese men having annual health checkup.

【Methods】 Hs-cTnT, NT-proBNP, some blood data and anthropometric parameters including radial augumentation index（rAI）, brachial-ankle pulse wave velocity（baPWV）, were obtained in 1427 Japanese male subjects coming to health checkups. We defined celebro-cardiovascular disease as subjects having past history of cerebro-cardiac disease, and subjects treating now for cerebro-cardiovascular disease.

【Results】 In this study subjects, the hs-cTnT（≧ 0.009 ng/ml）was detected in 4.1%（59 subjects）. The subjects having cerebro-cardiovascular disease were 3.0%（43 subjects）. The area under the receiver operator characteristic curve for hs-cTnT, NT-proBNP, baPWV, and rAI were 0.514, 0.618, 0.651, and 0.673, respectively. Logistic regression analysis demonstrated that NT-proBNP（Odds ratio = 1.7, 95%CI : 1.3-2.7）（p<0.001）and rAI（Odds ratio 1.7, 95%CI : 1.1-2.8）（p=0.03）, but not hs-cTnT and baPWV, were significant variable to identify cardiovascular disease after the adjustment of