vs 13.0 mo, $p<0.001$).

【Conclusions】 CS may improve the prognosis of patients with LA-PC who respond to non-surgical treatment.

4-6.

LCI visibility in endoscopic finding

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【Background】 LCI（Linked Color imaging）, one of the Image-Enhanced Endoscopy, has been reported to improve various gastroscopic findings compared to WLI（White light imaging）observations. We compared LCI and WLI for atrophy, intestinal metaplasia, giant rugae, nodular gastritis, and xanthoma, which are considered to be endoscopic gastric cancer risk factors.

【Subjects and methods】 The subjects were 64.8±13.7 years old, 27：26 in the sex ratio, and 53 cases taken with WLI and LCI in the stomach. As gastric cancer risk findings, observational findings of WLI and LCI were recorded for atrophic gastritis, intestinal metaplasia, giant rugae, nodular gastritis, and xanthoma. The presence or absence of *H. pylori* infection was examined using urea breath tests and *H. pylori* antibodies.

【Result】 Atrophic gastritis observed in WLI and LCI was C-0：24, 5, C-1：2, 21, C-2：5, 4, C-3：5, 4, O-1：9, 4, O-2：8,14, O-3：0, and 1, respectively. The visibility improvement of the atrophic gastritis and the expansion of the view range were recognized. Intestinal metaplasia was 2 and 2, respectively, and visibility improvement was recognized. The giant rugae was 4 and 4, and the visibility improvement was not recognized. Nodular gastritis was observed in 1 and 1 to improve visibility and expand the view range. Xanthoma were 7 and 7, and no improvement in visibility was observed.

【Conclusion】 In atrophic gastritis, intestinal metaplasia, and nodular gastritis, LCI had improved visibility compared to WLI. In addition, LCI had increased the visual range due to atrophic gastritis and nodular gastritis.

4-7.

Effect of Muscle Mass Loss After Esophagectomy on Prognosis of Oesophageal Cancer

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【Background】 The effect of muscle mass loss during perioperative period on prognosis is unknown. The aim of this study was to assess the effect of muscle mass loss after esophagectomy to discharge on prognosis.

【Methods】 This study retrospectively analyzed 159 patients with oesophageal cancer, underwent open right thoraco-abdominal approach esophagectomy, pathologically diagnosed as squamous cell carcinoma or adenocarcinoma, between August 2011 and October 2015. This study investigated the influence of muscle mass loss after esophagectomy to discharge on prognosis. Body composition was analyzed using bioelectrical impedance analyzer, evaluated within 1 week before surgery and at discharge.

【Results】 The median rate of muscle mass loss（RMML）was 4.38%. Patients were divided into two groups based on the RMML by cut-off 4.38（group A：less RMML, group B：more RMML）. N stage（0/1/2/3）was 41/30/6/3 in group A, and 26/26/19/8 in group B. The rate of 2/3 was significantly higher in group B. Postoperative complication rate was 31%（25/80）in group A, and 49%（37/79）in group B. The complication rate was significantly higher in group B.

The 3-years survival rate was 82.0% in group A, and 63.7% in group B. Group B was significantly worse for over-all（OS）survival than group A. Multivariate Cox regression analysis showed that the patients who had RMML over 4.38（*p*=0.015 ; HR 2.033 ; HR 95% CI 1.018-5.924）, T2/3 were associated with worse OS.
【Conclusion】 This study found correlation between the loss of muscle after esophagectomy to discharge and worse OS in esophageal cancer.

5-1.
活性イオウ分子種の破骨細胞分化における作用機序の解明

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【目的】 近年、強い抗酸化能を持つ活性イオウ分子種（RSS）が細胞内で生じることが明らかとなり（Proc Natl Acad Sci USA 111 : 7606-11, 2014）、その主要な産生酵素としてシステイン-tRNA 合成酵素/システインパースルフィド合成酵素（CARS2/CPERS）が同定された（Nat Commun 8 : 1177, 2017）。我々は、骨代謝で RSS が果たす役割を解明する目的で、今回、骨吸収を担う破骨細胞（OC）の分化における RSS の機能を解析した。
【方法】 野生型および CARS2/CPERS+/－マウスの骨髄マクロファージ（MΦ）を OC 分化誘導因子（RANKL）存在下に 3 日間培養した。RANKL 依存的 OC 分化に対する NaHS および Na2Sn（n : 2-4）の効果を OC 分化マーカーの発現で評価した。
【結果】 NaHS は OC 分化に影響しなかったが、Na2Sn は OC 分化を促進し、その活性は n が大きい順に強かった。Na2S4 は破骨細胞分化のマスター転写因子である NFATc1 の発現と核移行を促進し、その上流シグナルであるカルシウム・カルシニューリン経路を活性化した。CARS2/CPERS+/－マウス MΦ の OC 分化は野生型 MΦ に比べ抑制されていたが、Na2S4 の添加で回復した。
【結論】 RSS は、カルシウム・カルシニューリン経路を活性化することで、破骨細胞分化を促進した。

5-2.
Expression of calcitonin gene-related peptide in the pulmonary neuroendocrine cells of mouse lung from embryonic to postnatal stages

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【Background】 Pulmonary neuroendocrine cells（PNECs）are proposed to be the first specialized cell type to appear in the developing lung. These cells exist in clusters that distribute throughout the bronchial epithelium（Ouadah et al., 2019）. The proliferation of PNECs is related to the calcitonin gene-related peptide（CGRP）to promote epithelial repair after injured（Song et al., 2012）. However, there is little information in relation to the CGRP and PNECs during development of lung.
【Objective】 We sought to determine whether CGRP and other related markers mRNAs makers are expressed in mouse lung during development from embryonic 12.5 days to postnatal 5 days.
【Methods】 Samples were collected on embryonic day 12.5（E12.5）, 14.5, 17.5 and postnatal day 0（P0）, 1, P（each stage *n*=4）. The sections were observed by means of immunohistochemistry and *in situ* hybridization. The levels of CGRP and vascular endothelial growth factor（VEGF-A）mRNAs in the lungs were determined by the reverse transcriptional-polymerase chain reaction.
【Results】 CGRP-immunoreactive and CGRP mRNA-positive cell were increased from E14.5 to E17.5. The clusters of CGRP mRNA and anti-CGRP positive cells were clearly found on E17.5. The expression of CGRP and VEGF-A mRNA gradually increased from E12.5 to P1, and then attenuated from P1.
【Conclusions】 During the development of lung, CGRP may be related to the appearance of the PNECs formation from E14.5 to E17.5. Moreover, CGRP expression in bronchial epithelium might play an important role in the