

6. Effects of Sodium Selenite Supplementation on the Formation of Pre β -high-density Lipoprotein in Human Primary Hepatocytes

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【Background】 A low level activity of glutathione peroxidase-1 (GPx-1, a selenium-dependent enzyme) is associated with the development of cardiovascular events. One major risk factor for cardiovascular diseases (CVD) is low concentration of high-density lipoprotein (HDL). In human studies, selenium, an essential trace element, had a positive correlation with HDL concentrations. Therefore, selenium supplementation may be beneficial for preventing CVD, but the precise mechanism is still unknown. The purpose of our study was to explore the effects of selenium on pre β -HDL formation in a human primary hepatocyte cell (HC) line. **【Findings】** The HC cell line was cultured in medium supplemented with 0-10 μ M sodium selenite. Cell viability, GPx-1 activity, pre β -HDL formation related protein and RNA expressions were measured. A cell viability assay showed that 5 μ M was the half-maximal inhibitory concentration value of sodium selenite after 72-hour incubation. The saturation of GPx-1 activity reached after 72-hour of incubation with 50nM of sodium selenite. This result was confirmed by increased GPx-1 protein and RNA expression determined by western blot and q-PCR respectively. In contrast, the expression levels of pre β -HDL formation-related proteins and RNA, such as apolipoprotein A-I (ApoA-I), apolipoprotein A-II, and ATP-binding cassette transporter-1, were not significantly increased. However, 50 nM sodium selenite significantly increased protein and mRNA expressions of ApoA-I in HC when compared with control (0nM). Therefore, we cannot exclude the possibility that sodium selenite has

influence on ApoA-I expression in some extents. **【Conclusion】** These results suggest that under in vitro conditions, selenium supplementation increases GPx-1 activity protein and RNA expression without affecting pre β -HDL formation in the liver. However there is still a possibility of supplementation effect of low doses sodium selenite on ApoA-I.

7. Impact of Nutritional Education on Knowledge and Attitude of Iodine Deficiency Disorders of Posyandu Cadres in Malang District, East Java Province, Indonesia

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【Background and Objective】 About 50% of people in Indonesian are suffering from nutritional deficiency of various forms, one of those is Iodine Deficiency Disorders (IDD). A range of strategies is needed to combat nutritional problems in Indonesia. It is important to strengthen the independence of public sector to solve the problem in the community without relying on the government. To that end, empowering the community by enhancing the knowledge and ability of the community, enable them to identify and solve their problems, and build community self-reliance is important. An activity can be categorized as empowerment if able to strengthen, improve or develop the potential of the local community. *Posyandu* is a community-based health forum in Indonesia, focusing on five activities: Maternal and Child Health, Family Planning, Immunization, Nutrition, and Prevention of Diarrhea. It is more institutionalized in the society than other community-based activities. Educating the Posyandu cadres as health leaders in the community may be effective countermeasure for the nutritional deficiency. The objective of this study was to investigate the impact of nutritional training in increasing cadres' knowledge and attitude towards IDD and to determine which group (age, education, community activity membership, work experience, training) having difference to the knowledge and attitude in order to estimate the required qualification of better cadres. **【Methods】** Quasi experimental study was carried out using 40

Posyandu cadres who were chosen by total sampling from 8 Posyandu in that area. The study was conducted in Panggunrejo village, Malang District, East Java Province, Indonesia. Knowledge and attitude data were collected through pre-test and post-test. Intervention in the form of nutritional education was applied. Post-test was done 2 weeks after the intervention. The knowledge score was obtained by summing all of correct answer, correct answer gained 1 score and wrong answer or blank gained 0, which gave 20 maximum points. A 5 point Likert scale was used in the analysis of attitude. The attitude score was gained by summing all of the answer scores, which gave 70 maximum points. The data were processed through descriptive statistics, paired t-test, McNemar test, and one-way ANOVA. The paired t-test was used to analyze the impact of intervention on cadres' knowledge and attitude. McNemar test was used to analyze the effect of intervention on cadres' knowledge by question. One-way ANOVA was used to compare the knowledge and attitude mean score by group (Age, Education, Community Activity, Work Experience, Posyandu Training). **【Results and Discussion】** Most of respondents were housewife (87.5%), 85% of participant have been joined with Posyandu more than 3 years and 75% of them had higher education and none of respondent had monthly family income < IDR 500,000. Intervention had a significant impact on both cadres' knowledge and attitude scores ($p < 0.05$); the percentage of correct answer increased from 61.75% to 93.00%, and attitude score increased from 66.46% to 89.64%. Most of answers on knowledge questions (18 out of 20) indicated significant effect of intervention on knowledge. Young age group (<40 years) tended to have better knowledge than older group (>40 years) as well as the higher education group. Meanwhile cadres who never had training had higher knowledge score and significant difference at post-intervention ($p < 0.05$). In terms of attitude, there were no difference of mean score by age group, works experience and posyandu training group. Higher education had significant difference of attitude mean score after the intervention. **【Conclusion】** Intervention of nutritional education significantly increased cadres' knowledge and attitude scores toward IDD as well as understanding the roles of Posyandu in solving nutrition problems in Indonesia. Nutrition training and other competency improvement programs for cadres on regular basis is useful for empowering the community.

8. 上顎骨に発生した juvenile trabecular ossifying fibroma の 1 例における病理組織学的検討

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Juvenile trabecular ossifying fibroma (JTOF) は ossifying fibroma (OF) の亜型であり、若年者に発生する非常に稀な良性骨腫瘍である。今回、我々は上顎骨に生じた JTOF を経験したため、類似疾患との鑑別を含めた病理組織学的検討を行ったので報告する。症例は 8 歳男性。左上顎歯肉の腫脹を主訴に当科紹介受診した。左上犬歯部から大白歯部にかけて骨様硬の腫脹を認め、画像所見では左上顎洞相当部から頬骨、側頭骨、蝶形骨に及ぶ不透過像を認めた。骨病変に対する臨床診断は fibrous dysplasia (FD) であった。同時に成長ホルモン産生性下垂体腺腫、皮膚褐色斑、思春期早発症を合併しており、Albright 症候群の疑いとなった。生検検体による病理組織学的検査では、病変は多数の幼若な骨梁～類骨形成が認められ、骨梁間には線維芽細胞と豊富な膠原繊維からなる線維組織が認められた。骨梁内には核の腫大した骨芽細胞が多数認められ、骨梁を縁どるように配列する骨芽細胞も認められた。骨芽細胞や線維芽細胞の核に異型は認めなかった。病変部検体から GNAS 遺伝子検査を行ったが、GNAS 遺伝子の変異は認めなかった。最終的な病理組織学的診断は JTOF となった。上顎骨に発生する JTOF は完全に切除されていれば再発は認めず、予後良好であるとされている。顎骨に生じる可能性のある関連疾患である、FD, juvenile psammomatoid ossifying fibroma (JPOF), osteosarcoma (OS) などとの鑑別が問題となることがあり、病理組織学的には遺伝子検査を含めた慎重な確定診断が必要であり、この点について詳細に解説する。

9. 発見が遅れたために重篤化した全身麻酔後顎関節脱臼の 1 例

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【緒言】 顎関節脱臼は過度の開口などを原因として発症するが、手術合併症としての報告はほとんど認められない。今回われわれは、全身麻酔後に顎関節脱臼を発症し、診断・整復されずに経過したために重篤化した一症例を経験したので、文献的考察を加えてその概要を報告する。**【症例および臨床経過】** 37 歳女性。右側舌縁部の扁平上皮癌に対し、全身麻酔下に気管切開、頸部郭清