１０　紹　　介

（雑誌等）

腸管凝集付着性大腸菌耐熱性腸管毒素遺伝子（*astA*）保有大腸菌0166:H15の食品からの検出方法の検討

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近年，国内で多発している *astA* 保有大腸菌を原因とする集団食中毒事例では，食品中の *astA* 保有大腸菌の適切な検出方法がなく，原因食品が特定されないことが多い．このため我々は，*astA* 保有大腸菌のうち最も一般的な血清型である 0166:H15 について，複数の異なる由来の菌株を用い，リアルタイムPCR法を含む様々な培養法およびスクリーニング法の有用性を検討した．その結果，セフィキシム-テルライトサプリメントまたは2 mg/Lのトブラマイシンを含む寒天培地ではすべての菌株の増殖が抑制されたが，1 mg/Lのトブラマイシンを含む寒天培地では増殖が抑制されなかった．添加回収試験では，1 mg/Lのトブラマイシンを添加したCHROMagar STECと1 mg/Lのトブラマイシンを添加したSMACが比較的高い検出率を示した．さらに，接種菌のリアルタイムPCRでは，すべての濃縮培養条件下で検出感度は1.00（20/20）であり，Ct値は20前後であった．以上の結果から，トブラマイシン添加選択寒天培地を用いた培養法とリアルタイムPCR法によるスクリーニングを組み合わせることは食品中の EASTEC を検出するための効率的かつ効果的な方法であると結論した．

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食中毒等事例における有症者由来カンピロバクター，サルモネラ属菌，下痢原性大腸菌の薬剤耐性状況

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本調査では，本県における食中毒等事例の有症者由来細菌（カンピロバクター，サルモネラ属菌，下痢原性大腸菌）を対象とした薬剤感受性試験結果をまとめ，薬剤耐性の傾向を確認するとともに，食中毒等事例以外に由来する各菌種の薬剤耐性状況と比較し，報告した．

Campylobacter jejuni では119株中65株（54.6%），*C. coli* は12株中11株（91.7%）が一薬剤以上に耐性であった．カンピロバクターの薬剤耐性状況は，家畜由来株，食品由来株，ヒト由来株に強い関連性がある可能性が示唆された．

一方，サルモネラ属菌の10株中3株（30.0%），下痢原性大腸菌の6株中3株（50.0%）が一薬剤以上に耐性であった．対象菌株数が少なく，耐性傾向を把握することはできなかったが，ESBL産生菌がサルモネラ属菌で2016年に1株，下痢原性大腸菌で2020年に1株確認された．

効果的な薬剤耐性菌対策をとっていくため，食中毒等有症者や食品由来細菌の薬剤耐性菌に関する組織的なモニタリング体制が構築されることが期待される．

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Analysis of Factors Related to Variation in Dissolution Profiles Estimated from Continuously Conducted Dissolution Tests of Generic Products

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The development of generic pharmaceuticals involves a bioequivalence study to ensure the therapeutic equivalence of the test formulation to the original innovative product. The formulation characteristics of generic products are expected to be maintained in the long term after approval. This study analyzed the factors contributing to the changes in the dissolution profiles of approved products during their life cycles. Cumulative data on the dissolution similarity of 1675 products of 127 ingredients tested by official laboratories in Japan were assessed according to Japanese bioequivalence guidelines with slight modifications. The products showing dissimilarities in dissolution profiles were analyzed for reporting year, therapeutic category, co-development, physical properties of the active pharmaceutical ingredient (API), and suspected reasons for dissolution change. The increase in the number of dissimilar products is related to the co-development of generic products. Although the solubility of the API was not associated with the dissolution change in the analysis of the total dissolution data, control of the API particle size is suggested to be important for drugs with poorly soluble APIs. Additionally, a risk factor for dissolution changes in the test solutions at a certain pH was the presence of acidic or basic residues. These

results indicate the importance of proper development through a thorough evaluation of the formulation and process factors affecting the dissolution properties throughout the product lifecycle.

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Amatoxin poisoning caused by Galerina sulciceps, a species with no prior record of identification in Japan: a case report.

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A 60-year-old man presented with acute gastroenteritis, hypovolemic shock, acute renal failure (BUN/Cr, 56.7/4.24 mg/dl), and aspiration pneumonia. The previous day, he ingested 30 caps of mushrooms of an unknown species. The patient was treated with a massive intravenous infusion, renal replacement therapy, and antimicrobial agents. Late-onset mild liver injury peaked on day 11 (AST/ALT, 62/67 IU/l). Acute renal failure improved once before worsening, with the worst symptoms on day 19 (BUN/Cr, 99/6.61 mg/dl). Thereafter, the patient showed gradual improvement, and renal replacement therapy was discontinued on day 23. His general condition improved fully and he was transferred to another hospital for rehabilitation on day 47. The mushrooms were later identified as Galerina sulciceps by the Basic Local Alignment Search Tool, and toxicologic analysis using liquid chromatography-tandem mass spectrometry revealed an average of 85 ppm α-amanitin and 330 ppm β-amanitin in the tissue of the mushrooms brought in by the patient's family. Galerina sulciceps is distributed mainly in tropical and subtropical regions of Southeast Asia and had never been identified before in Japan. The heat of fermentation generated by the thick layer of wood chips on the ground or global warming may have contributed to its growth in Japan. Interestingly, our patient did not have liver dysfunction, which is one main and typical amatoxin poisoning symptom. Variation in clinical presentation may be attributed to the different ratios of α-amanitin to β-amanitin in different mushroom species.

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Severe aconite poisoning successfully treated with veno-arterial extracorporeal membrane oxygenation: A case report.

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Most species of aconite contain highly toxic aconitines, the oral ingestion of which can be fatal, primarily because they cause ventricular arrhythmias. We describe a case of severe aconite poisoning that was successfully treated through veno-arterial extracorporeal membrane oxygenation (VA-ECMO) and in which detailed toxicological analyses of the aconite roots and biological samples were performed using liquid chromatography-tandem mass spectrometry (LC-MS/MS). A 23-year-old male presented to the emergency room with circulatory collapse and ventricular arrhythmia after ingesting approximately half of a root labeled, "Aconitum japonicum Thunb". Two hours after arrival, VA-ECMO was initiated as circulatory collapse became refractory to antiarrhythmics and vasopressors. Nine hours after arrival, an electrocardiogram revealed a return to sinus rhythm. The patient was weaned off VA-ECMO and the ventilator on hospital days 3 and 5, respectively. On hospital day 15, he was transferred to a psychiatric hospital. The other half of the root and his biological samples were toxicologically analyzed using LC-MS/MS, revealing 244.3 mg/kg of aconitine and 24.7 mg/kg of mesaconitine in the root. Serum on admission contained 1.50 ng/mL of aconitine. Beyond

hospital day 2, neither were detected. Urine on admission showed 149.09 ng/mL of aconitine and 3.59 ng/mL of mesaconitine, but these rapidly decreased after hospital day 3.

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