医学博士山村雄一君の「細胞性免疫とその制御」に対する授賞審査要旨

山村雄一君は、細胞性免疫の機構解明とその制御につき、過去三五年間に亙り一貫した研究を行い、特記すべき大きな発見をなし、独創性の高い業績を挙げた。

そもそも免疫学は、分子遺伝学と共に、今世紀後半に巨大な進歩を遂げた学問である。天然痘ワクチン、破傷風血清療法等より発展した免疫学は全くその様相を変えた。今や、生命活動の調節、環境との調和、自己と非自己との認識、更に関節リュウマチ、ある種の糖尿病を含む自己免疫疾患、AIDS（後天性免疫不全症候群）と呼ばれるウイルスによる免疫不全疾患等にかかわる医学の中心課題となった。免疫に関する細胞には、血中抗体を産生するB細胞と免疫調節や遅延型アレルギー、抗癌免疫などにかかわるT細胞があるが、山村雄一君の業績はT細胞による細胞性免疫とT細胞によるB細胞の調節に新領域をもたらした。

山村雄一君は、すでに昭和二十年代に、肺結核の空洞が、結核菌の侵蝕によるものではなく、結核菌に感作された動物に、ツベルクリンペプチドが反応して起こる遅延型アレルギー反応によってつくられることを示し、世界を驚愕せしめた。本業績により昭和三五年に朝日賞を受賞した。

その後、山村雄一君は結核菌類似のノカルジア菌の細胞壁成分により、T細胞のサブセットの抗癌性キラーT細胞

を活性化して、モルモットの癌の増殖抑制を証明した。さらにその研究は発展し、ベンツピレンによるマウス、ラットの肺癌の発癌の抑制、メチルコラントレンによる家兎肺癌発生の抑制に見事に成功した。当時の、実験動物に肺癌を確実に起こす困難を乗り越えて、種々の動物に肺癌を作る方法を見出し、その上に今日世界的課題となっている免疫にもとづく〝発癌抑制〟を先がけて証明したことは特筆すべきことである。

山村雄一君は、ノカルジアの菌体成分の化学構造からミコロイルムラミルペプチドに、キラーT細胞活性と発癌抑制が最もいちじるしいことを発見した。完全切除不能の人間の胃癌多数例につき厳格に対照を置いた条件で、ノカルジア菌の細胞壁を与え統計学的に生命が延長されることを証明した。特に肺癌性肋膜炎の胸腔内投与による効果は国立がんセンター病院でも卓効のあることが証明された。

山村雄一君の研究は、更に、T細胞の一種であるヘルパーT細胞とT白血病細胞との巧みな細胞融合により、血中抗体を作るB細胞の増殖因子とB細胞の分化因子を別々に産生するハイブリドーマを作り、両因子の存在を明確にした。これによりB細胞の抗体産生に至るまでに三段階のあることを立証し、B細胞の増殖と分化に大きな研究領域を開いた。さらに加えて、杉の花粉アレルギー等の病因となる免疫グロブリンEの産生を抑制する因子を作るT細胞株をハイブリドーマとして分離し、グロブリンE産生抑制因子研究の道を拓いた。

山村雄一君は、若くして赤堀研究室に学び、九州大学医学部医化学教授として基礎医学を発展させた上に、大阪大学第三内科学教授として、基礎医学から臨床医学に亘る、特に人間を対象として細胞免疫学の体系の確立に莫大な寄

与をした功績は他に比ぶべくもない。

山村雄一君は、現に大阪大学長、学術審議会長の要職にあるほか本業績に関係のある日本免疫学会の創設にあつかり、その会長をつとめ、アメリカ免疫学会名誉会員である。また国際免疫学会議会長や日本癌学会会長もつとめた。諸外国の教科書や総説くの山村雄一君の業績の引用は極めて数多い。また武田医学賞、高松宮妃癌研究基金学術賞、内藤財団学術賞も受賞している。弟子として各方面の第一線に活躍する人も多い。

一、主要な論文目録

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