

Category: Breast pathology

Determination of FISH Her2 testing: Comparing between the ASCO/CAP guideline and CAP expert panel guideline

S Vinyuvat¹, P Pongampan¹, N Samarnthai², C Suthipintawong¹

¹Institute of Pathology, Department of Medical Services, Bangkok, Thailand

²Siriraj Hospital, Mahidol University, Bangkok, Thailand

Corresponding author:

Songkhun Vinyuvat, M.D.

Institute of Pathology, Department of Medical Services

2 Payatai Rd, Rajathevi, Bangkok 10400, Thailand

Tel: 662-3548208

Fax: 662-3548200

E-mail: songkhun@gmail.com

Introduction:

FISH Her2 testing is the gold standard in detecting Her2 amplification in breast cancer. The ASCO/CAP guidelines recommended the use of overall Her2 ratio (OHR) for evaluating the Her2 status. Subsequent CAP expert panel guideline had proposed the counting of individual cell Her2: chromosome 17 ratio (ICR). This study is aimed to compare the outcome of Her2 status according to the recommendation of both guidelines.

Materials and method:

FISH Her2 data from 390 consecutive breast cancer cases during December 2010 – January 2012 were studied using Excel program to determine the OHR and ICR. The criteria are as follow: OHR <1.8 = non amplify, 1.8-2.2 = equivocal, and >2.2 = amplify; ICR ≥50% = amplify, 5% - <50% = tumor heterogeneity. Average Chromosome 17 count ≥3 is considered as polysomy chromosome 17.

Results:

For OHR, amplify/equivocal/non amplify cases are 214/6/170 cases. For ICR, amplify/non amplify cases are 214/176 cases. Tumor heterogeneity presented in 67 cases (0.2%). Polysomy chromosome 17 was found in 113 cases (28%). The cases with amplify/ non amplify in both guidelines were 210/170 cases. Four cases are OHR amplify/ ICR non amplify. Four cases are ICR amplify/one OHR non amplify and three equivocal. These discrepant cases are mostly polysomy chromosome 17. Three other OHR equivocal cases are all ICR non amplify. Both guidelines show good correlation ($r=0.74$) with statistically significance ($p<0.0005$).

Conclusion:

ICR is superior to OHR in determining tumor heterogeneity and eliminates the equivocal category. However, combined use of both guidelines would be helpful in determining proper Her2 status.

เสนอโดยนายทรงคุณ วิญญูวรรณ นายแพทย์ทรงคุณวุฒิ สถาบันพยาธิวิทยา

ในการประชุม XXIX Congress of the International Academy of Pathology

ซึ่งจัดขึ้นระหว่างวันที่ ๓๐ กันยายน ๒๕๕๕ ถึงวันที่ ๕ ตุลาคม ๒๕๕๕ ณ สาธารณรัฐแอฟริกาใต้